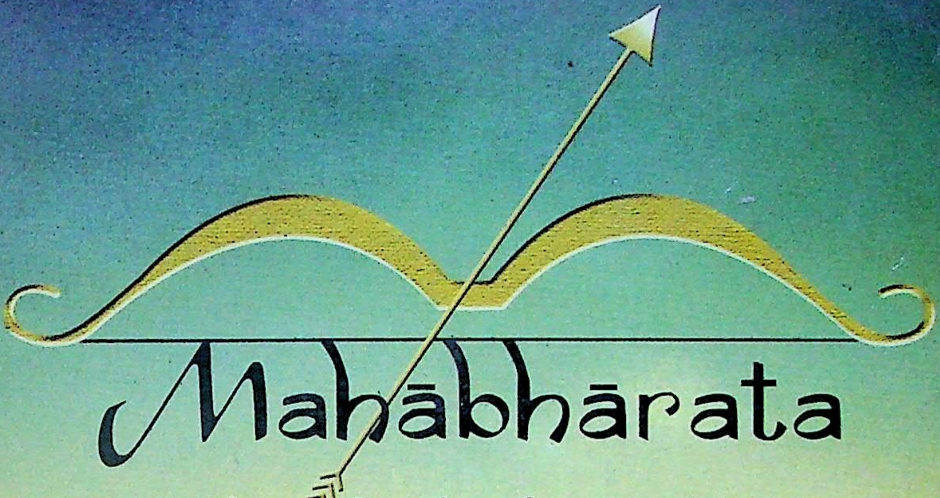

Mahābhārata

The End of an Era
(Yugānta)

Edited By
Ajay Mitra Shastri

MAHĀBHĀRATA
The End of an Era
(*Yugānta*)

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Cat no. 24-03-2012
24-03-2012

Edited by
AJAY MITRA SHASTRI

INDIAN INSTITUTE OF ADVANCED STUDY
SHIMLA

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NEW DELHI

Prefatory Note

Winternitz describes the *Mahābhārata* as a 'literary monster'. Hopkins says it would be like combining fragments of Homer, Hesoid, Aristotle and the New Testament. Both agree that the *Mahābhārata* derives from popular heroic songs and ballads which have been conflated inartistically through the ages. This process is placed by both of them between the 4th century BC and the 4th century AD.

In contrast, the traditional Indian reader considers the *Mahābhārata* a unified work of supreme excellence which was originally composed by Kṛishṇadvaipāyana recited by Vaiśampāyana at the *Sarpa-sattra* of King Janamejaya and later recited by the Sūta Ugraśravas at the twelve-year *sattra* of the sage Śaunaka at Naimishāraṇya. The work had two versions. Without *upākhyānas* it consisted of twenty-four thousand verses, with the *upākhyānas*, one hundred thousand verses. This larger extent included the *Harivaṁśa* as *khila* or appendix. This process of elaboration (*samastavyāsa-kathana)* and *saṁvādas* has also occasionally updated some earlier description by adding a new and larger version. For example, *Śakuntalopākhyāna*, *Nalopākhyāna* and *Sāvitryupākhyāna* could have originally existed independently but are now woven into the texture of the principal work. Similarly in *Digvijaya* and *Tīrthayātrā* sections there are shorter and longer versions, the longer versions show a later geographical knowledge of places and peoples. In spite of its length, digressions, repetitions and occasionally plain additions of essentially independent works such as some of the texts in the Anuśāsanaparvan, the work can be and has been read as the single work of a genius which is at once *itihāsa*, *kāvya* and *smriti*.

The original work was presumably composed towards the end of the Vedic age as traditions asserts and as is suggested by the closeness of its language to that of the mertical *Upanishad*. It could be dated about *c.* 800 BC in its original form since Paṇini and Āśvalāyana refer to *Bhārata* and *Mahābhārata*, and Paṇini has to be placed prior to *c.* 500 BC. Some of the philosophical and didactic material was presumably added between *c.* 600 BC and *c.* 2nd century BC. After that sporadic interpolations occurred.

It is a mistake to think of the *Mahābhārata* as an epic in the Greek sense. Nor should one think of the *Mahābhārata* as a chaotic aggregation. It bears the stamp of a mighty creative genius, its unity is manifested by its story, characters, style, feelings and vision. Its strong intellectual temper of enquiry and independent criterion has been underlined by Aurobindo. Even the additions to the original poem have virtually been assimilated into the *Mahābhārata* and Indian reader reads the poem as it is, without seeking to dismember it. It may be recalled that at one time German scholarship took the Homeric epic to pieces but such criticism did not affect the literary students of Homer. It is a pity that the *Mahābhārata* has also been left largely to the historians.

The *Mahābhārata* is not a historical chronicle but to quote Tagore, 'perennial history'. It is not a poem of merely tragic or pathetic import though it has a good deal of tragedy and pathos. It is a vision of the victory of Right over Wrong and of Truth over Untruth, a vision of the moral man rising above merely instinctive conflicts and finding himself ultimately surrendering to God. The *Gītā* is its core and Kṛishṇa its moving spirit and its goal. The great battle begins with the moral and spiritual doubts of Arjuna which Kṛishṇa resolves by the teaching of *Karmayoga*. The battle ends in gory lament and an apparently pyrrhic victory. Yudhishṭhira now has doubts similar to those of Arjuna. Bhīshma instructs him in the duties of the kings but it is clear that beyond social ethics lies the goal of spiritual liberation and devotion to Kṛishṇa. Ancient masters like Madhva and commentators like Sadānanda have emphasized this. The greatest modern scholar of the *Mahābhārata*, Sukthankar has said the same thing in his posthumously published lectures on the meaning of the *Mahābhārata*.

The *Mahābhārata* is an *itihāsa* in the sense of archetypal or *sanātana* history, it is a poem which expresses a vision of the struggle and destiny of man in terms of a mythopoeic and demiurgic creativity. It is a work of authority that is a *śāstra* as embodying an ancient tradition of wisdom. The whole work is cast in the form of unforgettable images of scenes and persons.

G.C. Pande

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Acknowledgements

It is my pleasant duty to acknowledge the valuable help I received from various quarters in convening the national seminar and bringing out this outcome in such a short time. It was in February 1999 that the then Director of the Indian Institute of Advanced Study, Prof. Mrinal Miri, requested me on behalf of the Governing Body to convene a national seminar on the *Mahābhārata* that year by way of heralding the twenty-first millennium. I accepted the invitation but pointed out that the time was too short and if the event was meant to presage the next millennium, it would be in the fitness of things to hold the seminar next year (2000), to which he readily agreed. But before the seminar was held, there was a change of guard and for some time Prof. Sibesh Bhattacharya acted as Director and later Prof. V.C. Srivastava took over and it was under his directorship that the seminar finally took place. I am highly thankful to all these for extending every possible help for conducting the seminar successfully. I have no words to thank adequately Prof. G.C. Pande, who as Chairman of the Governing Body of the IIAS, was always ready to extend to me the benefit of his valuable guidance and advice. After the seminar was over, Prof. Srivastava invited me to edit this anthology of valuable contributions and the outcome is now placed in the hands of interested readers.

I have received highly valuable assistance from several other quarters. I am beholden to the scholars who spared their valuable time in preparing the papers and participating in the deliberations of the seminar, but for them this endeavour would not have been possible. I am particularly thankful to Professors G.C. Pande, O.P. Bharadwaj, Sibesh Bhattacharya, A.A. Manavalan, B.B. Lal, V.D. Misra and Dr. N.R. Waradpande, who graciously accepted my request to chair the sessions of the seminar. One of the sessions was chaired by the undersigned also.

I cannot forget the valuable assistance rendered ungrudgingly by Dr. S.A. Jabbar, Academic Resource Officer, IIAS, regarding the administrative aspects of the seminar throughout, before, during and after, for which he deserves sincere thanks.

Last but not the least, I am very much beholden to my esteemed friend, Shri Devendra Handa, Fellow at the IIAS, for willingly undertaking the arduous task of going through the proofs with an exemplary care as a matter of love. Words fail to express my gratitude to him adequately.

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List of Abbreviations

ABORI	Annals of the Bhandarkar Oriental Research Institute
BMCAI	Catalogue of Indian Coins in the British Museum
BS	Bṛihat-saṁhitā
CAI	Coins of Ancient India by Alexander Cunningham
CII	Corpus Inscriptionum Indicarum
EC	Epigraphia Carnatica
EI	Epigraphia Indica
IA	Indian Antiquary
IAR	Indian Archaeology: A Review
JASB	Journal of the Asiatic Society of Bengal
JNSI	Journal of the Numismatic Society of India
JRAS	Journal of the Royal Asiatic Society of Great Britain and Ireland
JRASB	Journal of the Royal Asiatic Society of Bengal
Mbh.	Mahābhārata
ND	Numismatic Digest
OCP	Ochre-Coloured Pottery
PGW	Painted Grey Ware
SII	South Indian Inscriptions

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Introduction

It is now commonly, though not unanimously, believed that the Bhārata War was a historical event though fought on a much smaller scale than would appear from the *Mahābhārata* as it has come down to us.[1] Though essentially centring around a feud between two factions of a ruling family, it was joined by the ruling chiefs of a major portion of northern part of undivided India from Gandhāra in modern Pakistan in the north to Virāṭanagara (near Jaipur) in the south and from Gujarat in the west to Bihar in the east and thus involved a very large portion of what was then known as Bhārata. It is therefore rightly called Mahābhārata. It created a stupendous impact not only on the parts of the country that were directly involved in or concerned in any way with the war and places[2], monuments in far south and far east were also named after the Mahābhārata heroes, particularly the victorious Pāṇḍavas,[3] with several dynasties of these areas claiming descent from them.[4] We also have in some regions, shrines of some minor demoniac characters like Hiḍimbā.[5] It has also exerted an enormous influence on Indian thought, belief system and literary traditions. The *Bhagavadgītā*, which has moulded Indian devotional and philosophical thought, forms a part of the extant text of the Great Epic. Many Sanskrit and Prakrit literary compositions are based on the Mahābhārata War and role of its characters. Many of the plays of the celebrated Bhāsa have picked up some event or character of war for their themes. Some of the authors like Bhāsa and Kshemendra have attempted abridgement of the *Mahābhārata*. The followers of different sectarian denominations have developed their own versions which differ in many a case drastically from the popular version. Most of the modern Indian languages have not only a rich Mahābhārata-based literature but have developed their own renditions of *Mahābhārata*. The first poem of Kannada is the Bhārata of its first known poet, Pampa. There are folk and tribal versions of the *Mahābhārata* prevalent in different parts of the Indian subcontinent, and even some the so-called original tribes of India like the Muṇḍas and the Bodos, have their own accounts of stories, episodes, songs and dramatic performances based on it. What is most curious is that some of the tribes have developed myths and traced their descent to one or other of the characters of the Great Epic.[6] It is not only in India but wherever Indians went as in South-East Asia that the *Mahābhārata* is embedded in the life and culture of the people and there are different versions like Wayang in Java and folk performance based on it.[7] What is even more interesting, names of the Bhārata heroes enjoyed great popularity as shown by the fact that they are mentioned for the sake of comparison and people were named after the Mahābhārata characters even as early as the fourth century AD and the earliest citation of some *Mahābhārata* stanzas is met with in an inscription from Laos as early as the fifth century AD.[8] Thus our cultural traditions owe quite a lot to this great event.

There is, however, a sizable intellectual crème of indologists who do not share the view that the *Mahābhārata* has a historical core comparable to the Greek epic *Illiad* of Homer and strongly feel that it is a poetic-philosophical creation celebrating (and thereby stressing) the victory of good and justice over evil and injustice. They include such celebrities as Aurobindo Ghose, Rabindranath Tagore and the well-known *Mahābhārata* veteran, V.S. Sukthankar, and this view is now reiterated strongly by Prof. G.C. Pande in his inaugural speech of the seminar.[9]

Unfortunately, however, there prevails a complete uncertainty and indecision among those scholars favouring the historicity of the core of the Great Epic as regards the date of this epoch-making event. This is mainly due to differing statements of the astronomical facts in different parts of the text as well in some other works and their differing interpretations by different authorities. It is also not certain if the *Mahābhārata* stanzas containing these averments in their extant form found place in the original version of the *Mahābhārata*. We have explicit statements in the text itself that it had already passed through several recensions before receiving its present form. The original text comprised just a few thousand stanzas and was possibly the work of Kṛishṇadvaipāyana Vyāsa and probably known as *Jaya* as it concerned itself simply with the central theme, viz. the victory (*jaya*) of the Pāṇḍavas over the Kauravas. It was subsequently revised by Vaiśampāyana (and probably his school) with addition of some fresh material and it now turned into *Bhārata* containing about 24,000 stanzas. And finally with the accretion of considerable doses of fresh matter added deliberately from time to time with the explicit object of turning the work into an encyclopaedia of Indian culture[10] with all its components, it assumed the form of a compendium of all the existing knowledge called *Mahābhārata* with about 1,00,000 verses and was appropriately given the descriptive epithet *śata-sāhasrī saṁhitā*.[11]

These verses, however, do not find place in the critical edition of the Ādiparvan prepared by that greatest *Mahābhārata* savant, V.S. Sukthankar[12]. But even this edition admits that the text of the Great Epic went through several stages of growth. We are told that Kṛishṇadvaipāyana took three year of stringent continuous hard work to compose the *Mahābhārata* (Ādi, 56.32)[13] and transmitted it first to his five pupils – Sumantu, Jaimini, Paila, Śuka (his son)[14] and Vaiśampāyana – all of whom prepared their own *saṁhitas* or versions (Ādi, 57.74-75).[15] The last of these, Vaiśampāyana, recited it at the snake-sacrifice of King Janamejaya, the great-grandson of Arjuna (Ādi, 1.8-9)[16], where it was heard by the bard (*sūta*) named Ugraśvaas, son of Lomaharshaṇa, who narrated it afresh before the sages assembled at the twelve-year sacrifice of sage Śaunaka in the Naimisha forest (Ādi, 1. 1ff.). It had already become so popular that it was narrated by some poets and some were still narrating and, it was hoped, others would narrate this *itihāsa*. It became a subject of great knowledge 'in the whole world' and was being memorized in *extenso* and in brief by the brāhmaṇas (Ādi, 1. 24-26). Admittedly the text had already passed through several recensions which have taken a few centuries.

The most popular tradition dates the event a few years or just prior to 3102 BC which marks the beginning of the Kali age. The traditional date for the beginning of the Kali-yuga is found mentioned for the first time by the celebrated astronomer Āryabhaṭa (born AD 473)[17] and subsequently in the Aihoḷe inscription (dated AD 634) of the Chalukyan emperor Pulakeśi II of Badami (Bijapur district, Karnataka).[18] However, there also exist some other almost equally early traditions dating this event a few centuries subsequent to the start of the Kali age. According to a very persistent tradition, it occurred in 2449 (current) or 2448 (expired) BC. This notion is first referred to by Varāhamihira (mid-sixth century AD)[19] who in his *Bṛihat-saṁhitā* (XIII. 3) gives the interval between the period of the Mahābhārata hero Yudhishṭhira and the commencement of the Śaka era as 2526 years.[20] The celebrated Kashmiri poet-historian Kalhaṇa (twelfth century AD) in his *Rājataraṅgiṇī* (I. 56) cities this statement of Varāhamihira, dubs the notion that the Bhārata War took place at the end of Dvāpara as misleading (I. 49) and asserts that the Kurus and Pāṇḍavas flourished when 653 years of the Kali age had elapsed (I. 51).[21] Some modern Indian astronomers have tried to demonstrate that even some astronomical references in the *Mbh.* itself lend support to this date.[22] What is specially interesting in the present context is the fact that this tradition is also sought to be buttressed by some scholars on the basis of a certain assertion met with in one of the copperplate charters of the Prāgjyotisha monarch Bhāskaravarman (*c.* AD 600-650). It is averred in his Nidhānpur plates (verse 7) that Vajradatta, son of Bhagadatta, who had played an important role in the Bhārata War, was followed by his descendants who ruled for three thousand years after which Pushyavarman became the king.[23] And as Bhāskaravarman was a contemporary of Harshavardhana of Kanauj and Thānesar, who lived in the first half of the seventh century AD, and was twelfth in descent from Pushyavarman, the latter may be placed in the first half of the fourth century AD. And if we add 3000 years said to have elapsed between his accession and Bhagadatta's son Vajradatta, we reach about the middle (or first half) of the twenty-fifth century BC which tallies well with 2448 BC, the date of Yudhishṭhira according to Varāhamihira.[24] There is yet another tradition based on the varying statements in the Purāṇas about the interval betweeen Parīkshit, grandson of Arjuna and successor of Yudhishṭhira, and the coronation of Mahāpadma (Nanda) who flourished in the fourth century BC, just prior to the accession of Chandragupta Maurya. According to most of the scholars, it is given as 1050 or 1015 years, and accordingly the Bhārata War may have to be dated around the fifteenth century BC which is accepted by many. However, after carefully comparing the relevant Purāṇic passages on the question and the duration of the time allotted to various dynasties in different manuscripts, the indefatigable P.V. Kane has concluded that the correct reading most probably was *pañchaśatottaram*, and not *pañchāśad = uttaram* or *pañchadaś-ottaram* as found in the printed editions of the Purāṇas concerned.[25] And consequently the gap between Parīkshit and the coronation of Mahāpadma Nanda should be 1500 years and thus the Bhārata War, according to this tradition, will have to be dated in about 1900 BC. Thus far about literary and epigraphic evidence on the question.

However, archaeologists, who concede the historicity of the Bhārata War, are inclined to date the event somewhere between roughly 900 and 1500 BC, based on the time-bracket for the Painted Grey Ware (PGW) culture noticed at most of the sites in northern India associated with the activities of the Kauravas and the Pāṇḍavas and the Bhārata War as well as on some other considerations.[26] The find of some other materials including some seals in the underwater excavations at Bet Dwārakā in layers dating from about 1500 BC, has been taken by the excavator to confirm Kṛishṇa's association with the site during this period.[27] In short, there is a complete chaos both among ancient writers including astronomers-astrologers and historians and modern scholars about the chronological framework of this catastrophic happening, admitting though it was real. There are several scholars, especially of the traditional group, who uphold the general historicity of the tradition including the participation of all the powers, far and near, in the great war and circumstances and events leading to it, though they, too, agree that the descriptions are naturally magnified by the poets responsible for composing the text at various chronologically separated different stages.

Whether the Bhārata War was a historical event or not, there should be and is a complete unanimity about one point – the *Mahābhārata* as it has come down, is an encyclopaedia of multifaceted Indian life and culture down the ages. There is no aspect of life and culture left untouched by its authors whosoever they might have been. The *Bhagavadgītā*, which is pivotal to the understanding of Indian religion and philosophy through the stages and has naturally enjoyed great popularity and exerted unparalleled influence on leading ancient and modern Indian religio-philosophical luminaries as well as some modern foreign thinkers, forms part of this great work. What facet of Indian life is untouched by the *Mahābhārata*? Political life and thought, social institutions, occupations, classes, sports and pastimes, religious tourism or *tīrtha-yātrā* and geography, minerals and metallurgy, astrology and astronomy, military system and warfare including ethics of war, literary thought and practices, etc., are exhaustively dwelt upon in varying contexts. And in all these and other matters it is a veritable storehouse of information to any and every interested student of the past of India. And the authors of the work reveal their consciousness of this strange-looking fact when they aver that whatever in respect of Dharma (socio-religious duties), wealth, love-life (erotics) and final emancipation is here, is to be seen elsewhere, and what is missing in this work is not to be found anywhere else.

Dharme ch-ārthe cha kame cha mokshe cha Bhāratarshabha /
Yad = ih - āsti tad = anyatra yan = n-eh-āsti na tat kvachit //
(*Mbh.*, Ādi, 56/33).

In view of this phenomenal importance of the problems concerning the Great Epic and its all-pervasive character and national value, the Indian Institute of Advanced Study (IIAS), Shimla, wisely thought of organizing a national seminar on this great encyclopaedia of Indian life and culture, whose popularity continues unabated even after the passage of millennia and I was requested to act as its convenor. The idea was to focus pointed attention to varying facets concerning it and the colloquium actually evoked expectedly spontaneous enthusiastic interest and the response was simply encouraging.

The present anthology represents the papers presented at the seminar and naturally the topics are multidimensional like the Epic. Some of the papers presented could not be included for various reasons, while some other papers by scholars who could not participate in the seminar on some personal grounds have been included.

The papers are grouped into four broad sections. The first section concerns itself with the date and allied problems of the Mahābhārata War. The opening presentation by Prof. B.B. Lal dwells upon the evidence yielded by archaeological probings at the sites connected with the events of the war, situated in western Uttar Pradesh and concludes that the war took place somewhere around 900 BC. And an attempt to reconcile the archaeological evidence with the literary data concerning the number of generations elapsed between Nichakshu, who shifted the capital from Hastināpura to Kauśāmbi due to the former city being flooded by the Gaṅgā, to Udayana, a contemporary of the Buddha, leads him to date it slightly later in the ninth century BC. In the process he has arrived at an average of fourteen years per generation. His interpretation of the archaeological evidence is supported by Prof. V.D. Misra. Dr. I.K. Sarma, in the next paper, takes stock of all the popular theories about the date of the war based on archaeological data and makes a strong plea to relate it to the Harappan or Sarasvatī-Indus civilization and places it in the third millennium BC. So far the archaeological evidence.

The next three papers (4-6) dwell upon relevant literary data. After analysing the Purāṇic genealogies and astronomical evidences, Dr. Mohan Gupta concludes that the war took place around mid-twentieth century BC. Shri P.V. Holay analyses the various statements in the *Mbh.* and concludes that the tradition of the war taking place at the juncture of the Dvāpara and Kali resulting into placing it in the late thirty-first millennium BC is correct. He also gives what he calls the diary of the War. Profs. K.D. Abhyankar and G.M. Ballabh in their joint paper try to fix the epoch of what they term 'astronomical and historical of Kaliyuga' with a great bearing on the date of the war in 1500±300 BC which agrees fairly well with the dating by underwater archaeology around mid-second millennium BC. The absorbing question of the nature and types of weaponry described in the *Mbh.* is discussed by Dr. N.R. Waradpande who points out the imaginary character of the *astras* or missiles. Shri K.M. Srivastava dwells upon the problem of the location of the city of Kāmpilya, the capital of south Pāñchāla, the kingdom of Drupada, in the light of recent archaeological work by a team from the University of Venice (Italy) and Indian Archaeological Society represented by a team including the author, which points to the strong assumption that the ancient mound near the modern homonymous town represents the Kāmpilya of the Mahābhārata times.

The next section contains contributions on the *janapadas*, peoples and cultural and political aspects as found adumbrated in the *Mbh.* Shri Devendra Handa invites attention to the reference to some important *janapadas* of the Uttarāpatha which issued coins in their names, suggests their locations and on their antiquity, points to the chronological position of the relevant *Mbh.* passages. In the next paper the undersigned has taken stock of the *Mbh.*

allusions to the role of the Prāgjyotisha kings Bhagadatta and Vajradatta in the activities concerned with the war and observes that these were products of afterthoughts of some people with a view to impart antiquity and respectability to the ruling families of the North-East and that distances were too much for their participation in events taking place in the far off Uttarāpatha. Prof. K.S. Singh expatiates on the *Mbh.* ethnography of the North-East and shows that several of the peoples mentioned therein are identifiable with the present *janas* (tribes). The next two papers are devoted to the *tīrthas* (pilgrimage-centres) in the *Mbh.* The first paper by Prof. O.P. Bharadwaj dwells upon the Vedic *tīrthas* as described in the *Mbh.*, while the concept and practice of pilgrimage is the theme of the following paper by Dr. D.P. Dubey. Dr. Ashvini Agrawal in his article analyses the problem of *satī* in the context of Mādrī following her husband Pāṇḍu on his pyre and points out that the stanzas referring to this episode were added when the custom had become prevalent as in the days of the *Mahābhārata* it was not practiced. The *Mbh.* is an inexhaustible treasury of Indian thought and culture, and the last five articles of this part are devoted to a study of such matter. Drs. C.S. Radhakrishnan and Susmita Pande study the traces of Nyāya-Vaiśeshika and the data on the Pañcharātra cult in the work, the latter with reference to its Śāntiparvan. The Yaksha cult has enjoyed great popularity with people in general, irrespective of the sectarian affiliation and the information on it, as found in the text, is subjected to an analytical study by Prof. Chandrashekhar Gupta while the next article by Prof. Sibesh Bhattacharya is an attempt to find out the connection between the *Arthaśāstra* and *Dharmaśāstra* in the context of an important dialogue found in the Śāntiparvan. Dr. S. Ramaratnam studies the concept of communication as seen from some instances in the *Mbh.* in the concluding article of this section.

The sole article by Dr. K.V. Ramesh forming the next part, presents an almost exhaustive study of epigraphical allusions to the *Mahābhārata*, both war and work. It is pertinent to note in this context that as early as the fourth century AD, the *Mbh.* had become popular not just in the Indian subcontinent but even in South-East Asia where an inscription contains earliest citation from it. Its first datable description as a work containing a hundred thousand stanzas (*śata-sāhasrī saṁhitā*) is met with in a copperplate character dating from AD 534 in Central India, which is of immense value for the history of the growth of the work. These are only illustrative of the important epigraphic data on the *Mbh.* enshrined casually in inscriptions which form the theme of this paper.

The *Mahābhārata's* enormous popularity ever since the commencement of its composition is best revealed by its numerous versions by the votaries of different sects and in vernacular languages, and the closing section comprises scholarly contributions on this theme. Votaries of different sects moulded the *Mbh.* stories and characters to meet their sectarian requirements, and it is best exemplified by Jaina versions' studies, by Dr. Bhagchandra Jain 'Bhaskar'. The last articles by Profs. A.A. Manavalan, Shrinivas Ritti, M.R. Joshi and Bharati Shelat take stock of Tamil, Kannada, Marathi and Gujarati renditions and modern studies (in case of Tamil and Marathi) respectively. The Tamils show awareness of the *Mbh.* as early as the early centuries AD and there are Tamil versions of the work dating from around 5th-6th centuries AD. We also have modern writings based on the *Mbh.*, and research works in Tamil. The Kannada literature begins with the *Bhārata* or *Vikramārjuna-vijaya* of Pampa who lived in the tenth century and there were some other Kannada poems based on the *Mbh.* and moulded according to the individual needs of the authors. Marathi is blessed with several poetic writings based on the *Mbh.* right from the beginning of the thirteenth century AD when the famous saint-poet Jñāneśvara composed his well-known commentary on the *Bhagavadgītā*. Strangely enough, some Marathi writers regard the *Bhāgavata Purāṇa* as forming part of the *Mbh.* There has been a lot of modern research and study, sometimes motivated, in modern Marathi literature. Gujarati also has not lagged behind and there are several renderings of the text in full or of some *parvans* continuously from the fifteenth century.

The last paper (only one in Hindi) by Dr. Yogeshwari Shastri harnesses the references in the *Mbh.* with a view to fix the age of some prominent characters including Bhīshma, Droṇa, Abhimanyu, etc., at the time of the war and the reader is struck by the extraordinarily high age when one would find it very difficult, if not impossible, to fight. She gives the approximate age of other important participants like Yudhishṭhira, Bhīma, Arjuna, Kṛishṇa and others in a table appended at the end.

It will be seen from the above, naturally very brief reportage, that the present anthology comprises well-researched contributions and may be said to be *nakshatra-mālā* composed of twenty-six pearl-like papers which would make a highly absorbing reading for anyone interested in the epic studies. Naturally it does not touch upon all the aspects as no single work can; it would need Herculean effort of a dedicated team to study it exhaustively.

AJAY MITRA SHASTRI

NOTES AND REFERENCES

1. For different views on the historicity or otherwise of the Mahābhārata War, see S.P. Gupta and K.S. Ramachandran (eds.), *Mahābhārata: Myth and Reality-Differing Views*, Agam Kala Prakashan, Delhi, 1976.
2. Thus we have places named after Rukmiṇī and Bhīshma in the North-East.
3. It is best illustrated by the naming of the so-called *rathas* or chariots (actually shrines) after the five Pāṇḍavas and their wife Draupadī at Mahābalipuram (ancient Māmallapuram) on the shores of the southern ocean.
4. The Varman or Bhauma-Nāraka dynasty as well as many succeeding ones claimed to have descended from Bhagadatta and his son (or brother according to some divergent traditions) Vajradatta.
5. There is a mound at Mansar near Nagpur called Hiḍimbāchī Ṭekḍī ('Hiḍimbā's Mount'), and the late text *Sindūragiri-māhātmya* prescribes the worship of Hiḍimbā after bath in the local lake known as Mansar (Maṇisara which is an abbreviated form of ancient Maṇikālasara). In Himachal Pradesh also there is a shrine dedicated to her.
6. For an account of many of these versions, beliefs, and dramatic performances, see K.S. Singh (ed.), *The Mahābhārata: The Tribal and Folk Traditions of India*, Indian Institute of Advanced Study, Shimla & Anthropological Survey of India, New Delhi, 1993.
7. See for a detailed account, H.B. Sarkar, *Cultural Relations Between India and South-East Asian Countries*, Indian Council for Cultural Relations, New Delhi, and Motilal Banarsidass, Delhi, 1985, Ch. 14.
8. K.V. Ramesh, 'The Mahābhārata in Inscriptions', paper no. 20 in this volume.
9. The same line has been taken by several scholars including Rekha Jhanji in her *Human Condition in the Mahābhārata*, Indian Institute of Advanced Study, Shimla, 1995. See introduction.
10. अष्टौ श्लोकसहस्राणि अष्टौ श्लोकशतानि च।

अहं वेद्मि शुको वेत्ति संजयो वेत्ति वा न वा।।
चतुर्विंशतिसाहस्रीं चक्रे भारत संहिताम्।
उपाख्यानैर्विना तावद् भारतं प्रोच्यते बुधैः।।
इदं शतसहस्रं तु श्लोकानां पुण्यकर्मणाम्।
उपाख्यानैः सह ज्ञेयमाद्यं भारतमुत्तमम्।।

Mahābhārata (Gita Press edn.), Ādi, I.81, 102b-103a, 101b-102a

However, traditionally the first statement is intended to refer to knotty stanzas in the work and not to actual extent of the text as commonly believed by historians and modern Sanskritists.

Thus came into existence the saying met with in the Mbh. (Ādi, 56. 33), itself *Dharme ch-ārthe cha kāme cha mokshe cha Bhāratarshabha/ yad = ih-āsti tad = anyatra yan = n-eh-āsti na tat kvachit.*

11. The expression first occurs in the Khoh copperplate charter of *Mahārāja* Śarvanātha dated AD 534. *Vide* J.F. Fleet, *Inscriptions of the Guptas and Their Successors, CII, III*, p. 137.
12. Bhandarkar Oriental Research Institute, Pune, 1933.
13. त्रिभिर्वर्षैः सदोत्थायी कृष्णद्वैपायनो मुनिः।
महाभारतमाख्यानं कृतवानिदमुत्तमम्।।
14. It appear from Ādi, I. 63 that he first taught it to his son and thereafter to other pupils:
इदं द्वैपायनः पूर्वं पुत्रमध्यापयच्छुकम्।
ततोऽन्येभ्योऽनुरूपेभ्यः शिष्येभ्यः प्रददौ प्रभुः।।
15. वेदानध्यापयामास माहभारतपञ्चमान्।
सुमन्तुं जैमिनिं पैलं शुकं चैव स्वमात्मजम्।।
प्रभुर्वरिष्ठो वरदो वैशम्पायनमेव च।
संहितास्तैः पृथक्त्वेन भारतस्य प्रकाशिताः।।
16. जनमेजयस्य राजर्षेः सर्पसत्रे महात्मनः।
समीपे पार्थिवेन्द्रस्य सम्यक् पारिक्षितस्य च।।
कृष्णद्वैपायनप्रोक्ताः सुपुण्या विविधाः कथाः।
कथिताश्चापि विधिवद् या वैशम्पायनेन वै।।
17. षष्ट्यब्दानां षष्टिर्यदा व्यतीतास्त्रयश्च युगपादाः।
त्र्यधिका विंशतिरब्दास्तदेह मम जन्मनाऽतीताः।।
18. त्रिंशत्सु त्रिसहस्रेषु भारतादाहवादितः।
सप्ताब्दशतयुक्तेषु गतेष्वब्देषु पञ्चसु।
पञ्चाशत्सु कलौ काले षट्सु पञ्चशतासु च।
समासु समतीतासु शकानामपि भूभुजाम्।।

EI, VI, 1900-01, p. 7, verses 33-34

19. Though Varāhamihira started his writing activity in the beginning of the sixth century AD, the *Bṛihat saṃhitā* containing the statement in question was composed about the middle of the century.
20. आसन् मघासु मुनयः शासति पृथिवीं युधिष्ठिरे नृपतौ।
षड्द्विकपञ्चद्वियुतः शककालस्तस्य राज्ञश्च।।
Despite varying interpretations of the expression [illegible] *yutaḥ* (for these interpretations, see Ajay Mitra Shastri, [illegible]

India, I, Aryan Books International, New Delhi, 1996, p. 34, note 45), this happens to be the only correct interpretation and, as will be just seen, is backed by the Kashmiri chronicler Kalhaṇa.

It is held by some scholars that this stanza is of the sage Vṛiddha-Garga who is believed to have flourished in pre-Christian centuries when there could be no question of the knowledge of what is known as Śaka era commencing in AD 78 and therefore it is proposed to amend the reading *Śaka-kāla* to *Śakya-kāla* which again is regarded as meant for *Śakya-kāla* and intended to refer to the year of Buddha's *nirvāṇa*. However, the reading *Śakya-kāla* would violate the metre besides the fact that the early traditions of the prevalence of an era commencing from Śākyamuni Buddha's death does not exist. But there is no reason to hold that the stanza in question was extracted by Varāhamihira from Vṛiddha-Garga as supposed by these scholars. The previous stanza just avers that Varāhamihira 'would state the movement of the Saptaṛishis following Vṛiddha-Garga's opinion' (*kathayishyc Vṛiddha-Garga-matāt, Bṛihat-saṁhita*, XIII. 2). Obviously the wording is of Varāhamihira himself, and not of Vṛiddha-Garga. In fact, the relevant stanza of Vṛiddha-Garga as cited by Bhaṭṭotpala in his Vivṛiti commentary runs as follows and makes the point absolutely clear and certain:

तथा च वृद्धगर्गः

कलिद्वापरसन्धौ तु स्थितास्ते पितृदैवतम्।
मुनयो धर्मनिरताः प्रजानां पालने रताः।।

Bṛihat-saṁhitā with Bhaṭṭotpala's Vivṛiti commentary, ed. Sudhakara Dvivedi, I, in Ch. XIII.3.

Some scholars like Mohan Gupta ('The Date of Mahābhārata War: Purāṇic and Astronomical Data', included in this volume) believe that the stanza actually refers to the period elapsed from the time of the Mahābhārata hero Yudhishṭhira to the time of Varāhamihira though they actually refer to its citation by Kalhaṇa in his *Rāja-taraṅgiṇī* (1. 56). This is just impossible in view of his very explicit statement that the Kauravas and the Pāṇḍavas flourished 653 years after the beginning of the Kali age. See the following stanza.

21. शतेषु षट्सु सार्धेषु त्र्यधिकेषु च भूतले।
कलेर्गतेषु वर्षाणामभूवन् कुरुपाण्डवाः।।

22. See P.C. Sengupta, 'Astronomical References in the Mahābhārata and Their Implications', *JRASBL*, II, 1933, pp. 101-19; 'Bhārata Battle Traditions', *Ibid.*, IV, 1938, pp. 393-413.

23. वंश्येषु तस्य नृपतिषु वर्षसहस्रत्रयं पदमवाप्य।
यातेषु देवभूयं क्षितीश्वरः पुष्यवर्माऽभूत्।।

M.M. Sharma, *Inscriptions of Ancient Assam*, Guwahati University, Guwahati, 1978, p. 41, verse 7.

24. See P.V. Kane, *History of Dharmaśāstra*, III, Bhandarkar Oriental

Research Institute, Pune, 1946, pp. 898-99. However, Kane assigns an average of twenty years per reign and arrives at the beginning of the fifth century AD for Pushyavarman which would be too late a date for him. *Vide Pragjyotisha: A Pan-Indian Perspective*, Aryan Books International, New Delhi, 2001. Ch. II.

25. *History of Dharmaśāstra*, III, pp. 898-1000.
26. For a discussion of the evidence, see B.B. Lal, 'Excavations at Hastinapur and Other Explorations in the Upper Ganga-Sutlej Basin: 1950-52', *Ancient India*, Nos. 11-12, 1954-55, pp. 1-151. He found at Hastinapur a large part of the habitation of PGW culture washed away by a flood which, to him, corroborated the Purāṇic tradition that a serious flood in the Gaṅgā forced Nichakshu, son of Parīkshit, to shift his capital to Kauśāmbi. He dates this layer in about 800 BC shortly before which the Mahābhārata War must have taken place. His latest contribution on the theme is, 'This is How an Archaeologist Looks at the Historicity of Mahābhārata' in this volume. Vibha Tripathi (*The Painted Grey War and Iron Age Culture of Northern India*, Concept Publishing Company, Delhi, 1975, pp. 122-23) has summarized his main results. For a list of PGW sites known up to the 1970s, see *Ibid.*, pp. 124-31.

    F.E. Pargiter (*Ancient Indian Historical Tradition*, London, 1922, pp. 175-82) after a careful analytical assessment of the total number of reigns between Parīkshit, who succeeded Yudhishṭhira, and Mahāpadma, who founded the Nanda dynasty that preceded the Mauryas, arrives at 950 BC for the time of the battle. However, though well-based on the Purāṇic data, his date suffers from the abnormally low averages assigned to individual reigns, viz. 18 years, and therefore stands in need of a review. S.B. Roy (*The Date of the Mahābhārata War*, Gurgaon, 1976, pp. 139-48) reviews the various current theories about the date of this event and himself argues in favour of a date about mid-fifteenth century BC (*Ibid.*, pp. 116-48), his favoured date being around 1424 BC (*Ibid.*, p. 148).
27. See his 'Marine Archaeological Investigation in Indian Waters and the Discovery of Submerged Dvārakā', *Mañjūshā: Dr. S.R. Rao 60th Brithday Felicitation Volume*, Bangalore, 1985, pp. 23-27; 'Excavations at the Submerged Ports: Dvārakā: A Case Study', *Marine Archaeology of the Indian Ocean Countries*, Goa, 1987, pp. 47-53.

    Some scholars are inclined to regard the Harappan remains as those of the Mahābhārata age and thereby push the date of the war back to around the third millennium BC. See I.K. Sarma, 'The Mahābhārata: A Critical Study of the Archaeological Data', included in this volume.

1

This is How an Archaeologist Looks at the Historicity of the *Mahābhārata*

B.B. Lal

THE PROBLEM AND AN ARCHAEOLOGIST'S APPROACH

No one need be surprised at the extremely divergent views that exist about the historicity of the *Mahābhārata*, as they do in the case of the other well-known Indian epic, the *Rāmāyaṇa*. To the faithful, every event, major or minor, and every description, howsoever unusual, is true to the very letter: be it the flight of Shri Rāma and his entourage back from Sri Lanka in an aeroplane (*pushpaka vimāna*), or the deployment of millions of soldiers in the battlefield at Kurukshetra at the time of the Mahābhārata War. The firm believer in absolute authenticity of these epics would care less if a modern technologist told him that the manufacturing of aeroplanes is a very recent phenomenon, or a demographer or military strategist doubted the deployment of a number of *akshauhiṇī* units in the Mahābhārata War, since each *akshauhiṇī* unit, according to the laid down norms, comprised 21,870 elephants, 21,870 chariots, 65,610 horses and 1,09,350 foot soldiers. On the other hand, to a complete non-believer in ancient Indian tradition these epics are nothing more than mere figments of imagination. For him, the *Rāmāyaṇa* was written just to portray the character of an ideal son and a God-fearing ruler. Likewise, he holds that the *Mahābhārata* is nothing more than a conglomeration of a series of tales written from time to time to suit certain situations.

The reason for such a confusion seems to be inherent in the very nature of these texts. Take, for example, the *Mahābhārata*. If Kṛiṣṇa was a historical figure, he is unlikely to have existed after Buddha since the history of India is fairly well documented after the latter, i.e. from the sixth-fifth century onwards. Thus Kṛiṣṇa must have been there prior to the sixth century BC. On the other hand, the *Mahābhārata* text includes references not only to the Yavanas, i.e. Ionian Greeks and the Romakas, i.e. the Romans but also to the Hūṇas (white Huns) who are well known to have appeared on the Indian horizon as late as the fourth century AD. There is thus a time gap of at least a thousand years between the Mahābhārata event and the *Mahābhārata* text, as available to us now.

Further, the *Mahābhārata* is famous, or infamous(?), for the interpolations that it has had. The present text comprises more than 100,000 verses. However, it is well known that at an earlier stage it had only 24,000 verses and was called the *Bhārata.* Still earlier, it was called the *Jaya* and had only 8,800 verses. One need not be surprised if there was yet another earlier version with a much smaller number of verses. Anyway, there is at least eleven times inflation from the earliest known text to the present one. All attempts to find out the original text on linguistic basis have failed so far and hence one does not know what the basic story must have been like.

Finally, one should not should lose sight of the fact that the *Mahābhārata* was not meant to be a history book (*itihāsa*). It was an epic (*prabandha-kāvya*) and the poet was at absolute liberty to let his imagination fly. Thus, fact and fiction, reality and imagination, had their own colourful blending; and it is now a challenge to everyone to separate the wheat from the chaff.

What does an archaeclogist do to face such a challenge? His approach, as usual, is earthly, down to earth. Thus, as an archaeologist I thought that the best way, and evidently the only way open to an archaeologist, was to explore and excavate the various sites associated with the Mahābhārata story and to find out if these could throw any light on the issue. In this context, a very encouraging factor was that all the sites associated with the Mahābhārata story continue to bear the same name even to this day. For example, there is only one Hastināpura, one Mathurā, one Kurukshetra and so on. Thus, there is no confusion on that account and one can confidently treat the basic archaeological data recovered from these sites as authentic, irrespective of their subsequent interpretation by individuals.

THE KEY-SITES ASSOCIATED WITH THE MAHĀBHĀRATA STORY

Before taking up the archaeological evidence, it may be well worthwhile to narrate in a nutshell the main part of the Mahābhārata story in order to let the unfamiliar reader know which sites were associated with that story and in what manner. The key-site in the story is, of course, Hastināpura which was the capital of the Kauravas. Going by the same name even to this day, it is situated on the right bank of the Gaṅgā in Meerut District of Uttar Pradesh (cf. Fig. 1). As is well known, there was a dispute between the Kauravas and their cousins, the Pāṇḍavas, over the throne. The Kauravas held the reins, but the Pāṇḍavas contested the same. Driven by this enmity, the former thought of eliminating the latter by burning them alive in a lac-house (*lākshāgṛiha*) which they got specially built for the purpose at a place called Vāraṇāvata (modern Barnāwā), located at the junction of the Krishni and Hindon rivers, again in the same Meerut District. The Pāṇḍavas got a scent of the plot and managed to escape before its execution. They travelled westwards through the forest known as Khāṇḍavavana and reached a place called Virāṭanagara (modern Bairat) in Jaipur District, Rajasthan. The then local king, Virāṭa, after whom the place was named, welcomed the Pāṇḍavas and provided them all possible facilities. Having lived at Virāṭanagara for a pretty long time, the Pāṇḍavas sent a message to the Kauravas that they would not lay their claim to the throne if they were given just five villages. There is some discrepancy between the literary evidence and local tradition about the exact names of these five villages. However, these are generally believed to have been, from north to south, as follows: Pāṇiprastha (modern Pānīpat) and Soṇaprastha (modern Sonīpat), both in Haryana, Vṛikaprastha (modern Bāghapat in Uttar Pradesh), Indraprastha (Purānā Qilā area in Delhi) and Tilaprastha (modern Tilpat), again in Haryana. *Prima facie* this demand appears to be innocuous, but there was indeed more to it than meets the eye. Had the Kauravas agreed to surrender these five villages to the Pāṇḍavas, the latter would have got full control of the Yamunā system over a long stretch, from Pānīpat in the north to Tilpat in the south. On the east of the Gaṅgā, the Pāṇḍavas already had their allies, viz. the Pāñchālas, whose daughter Draupadī was married to them. (The Pāñchālas ruled from two places, namely, Ahichchhatrā in Bareilly District

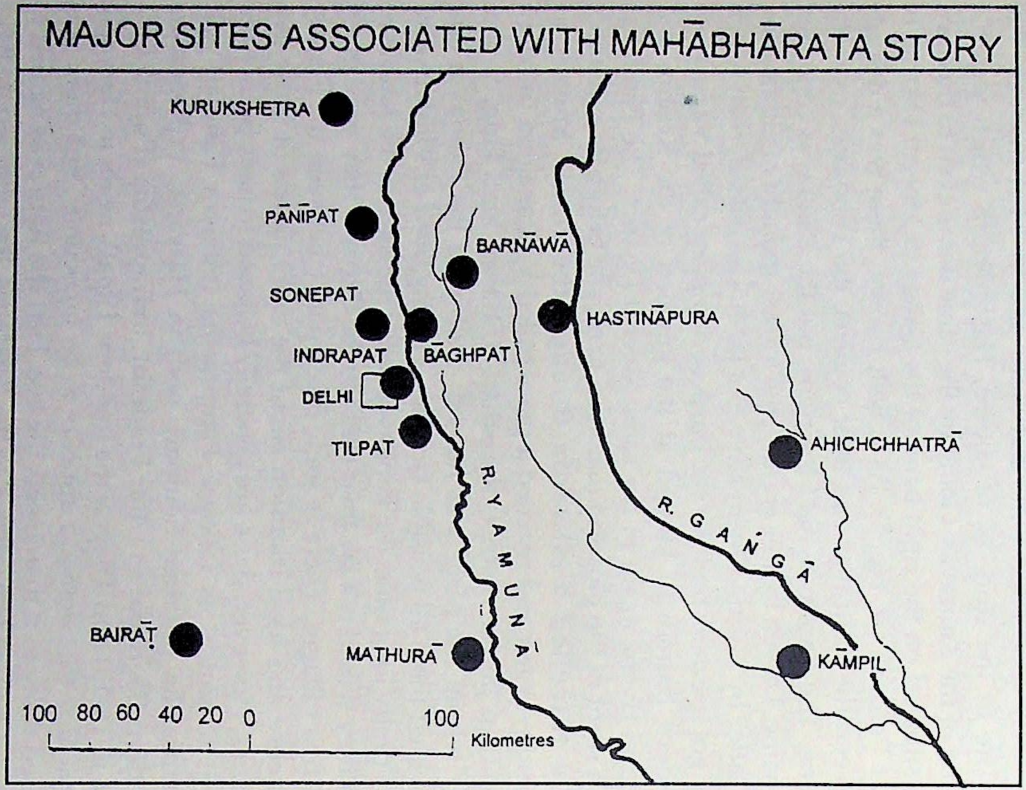

MAJOR SITES ASSOCIATED WITH MAHĀBHĀRATA STORY
KURUKSHETRA
PĀNĪPAT
BARNĀWĀ
SONEPAT
HASTINĀPURA
INDRAPAT
BĀGHPAT
DELHI
TILPAT
AHICHCHHATRĀ
R. YAMUNĀ
R. GAṄGĀ
BAIRĀṬ
MATHURĀ
KĀMPIL
100 80 60 40 20 0 100
Kilometres

Fig. 1. Principal Sites Associated with the Mahābhārata Story

and Kāmpilya in Farukkhabad District, both in Uttar Pradesh.) Thus, had the Kauravas made over these five villages to the Pāṇḍavas, the former would have been completely sandwiched. Fully realizing the implications of the request of the Pāṇḍavas, the Kauravas turned it down. The ultimate result was the Mahābhārata War, which was fought at Kurukshetra, a place in Haryana, that continues to be called by the same name even today. Lord Kṛiṣṇa, who sided with the Pāṇḍavas, hailed from Mathurā, a place going by that very name in Uttar Pradesh.

EXCAVATIONS/EXPLORATIONS AT THE ABOVE-MENTIONED SITES

Of the sites mentioned above, Hastināpura, Indraprastha, Tilaprastha, Mathurā, Ahichchhatrā and Kāmpilya have been excavated and the rest subjected to thorough exploration. Since Hastināpura is the key-site in the story, the results of the excavations carried out there are given in some detail below.

The excavations at Hastināpura were carried out by the present writer way back in 1950-52 (Lal, 1954-55). As already mentioned, the site is located on the right bank of the Gaṅgā. Though the main stream now flows a few kilometres away, there does exist a minor channel not far from the site and is known as the Būḍhī Gaṅgā (i.e. Old Gaṅgā). The ancient mound stretches along the river for a little less than a kilometre and rises at places to a height of about 18 m above the surrounding ground level. Width-wise it measures only one-fourth of a kilometre, but this does not represent the original width of the settlement: as would be seen later, a good bit of the river-side part of the mound had been washed away by a mighty flood in the river in ancient times.

Though the site was not subjected to large-scale horizontal excavations, quite a few trenches were laid at different parts of the mound in order to ensure that a complete stratigraphic sequence was obtained. In fact, one of the trenches, named HST-1, was laid right across the mound to get a running story from one end to the other. Vertically, five periods of occupation were identified, with a break in between them all (Fig. 2). The characteristic features of these, from bottom upwards, were as follows.

Period I, the earliest, was distinguished by the occurrence of a pottery known to archaeologists as the Ochre Colour Ware. In the

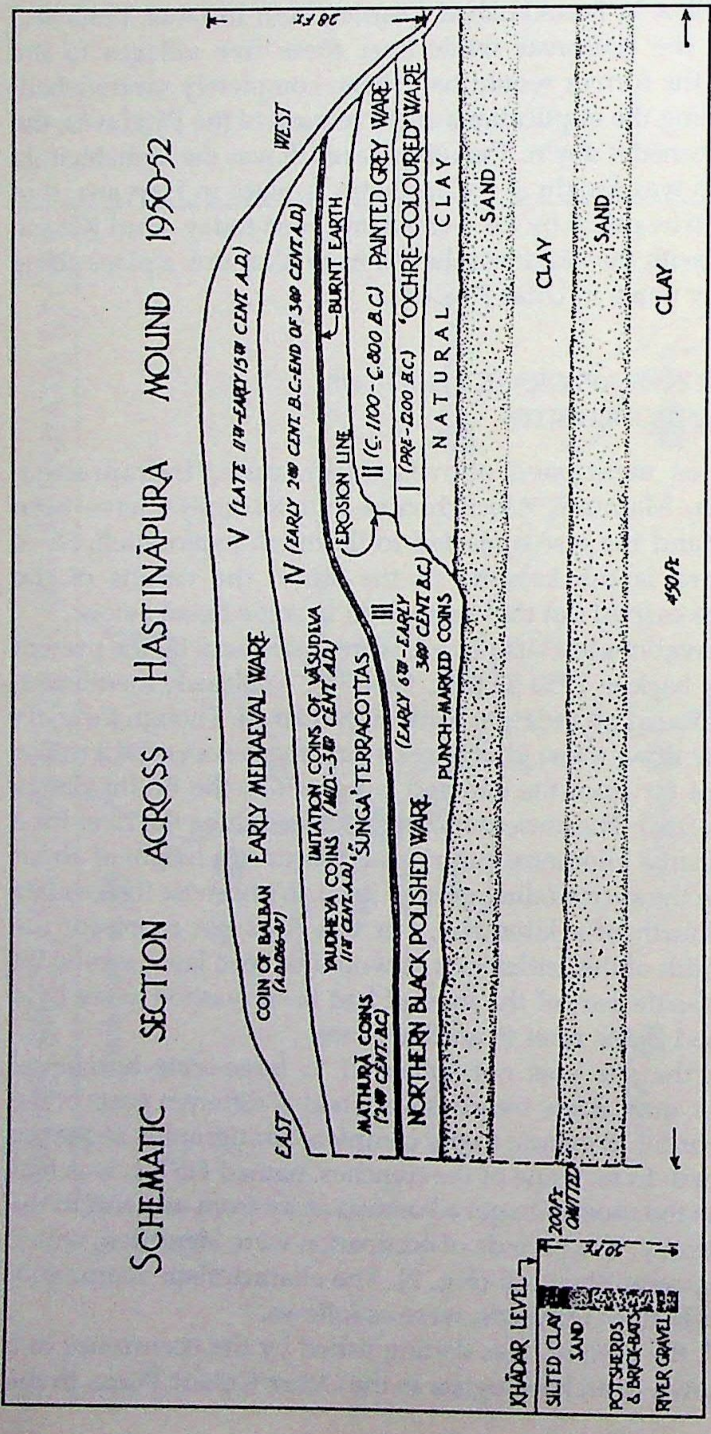
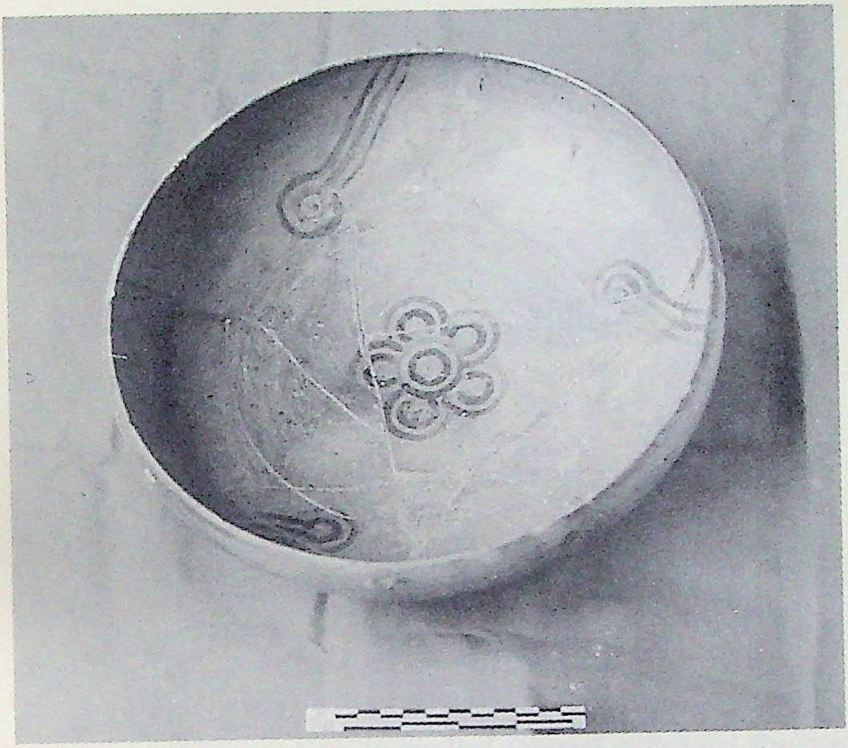

SCHEMATIC SECTION ACROSS HASTINĀPURA MOUND 1950-52
EAST
WEST
38 FT
V (LATE 11TH-EARLY 15TH CENT. A.D.)
COIN OF BALBAN (A.D. 1266-87)
EARLY MEDIAEVAL WARE
IV (EARLY 2ND CENT. B.C.-END OF 3RD CENT. A.D.)
YAUDHEYA COINS (1ST CENT. A.D.)
IMITATION COINS OF VĀSUDEVA (MID.-3RD CENT. A.D.)
'SUNGA' TERRACOTTAS
MATHURĀ COINS (2ND CENT. B.C.)
BURNT EARTH
EROSION LINE
III (EARLY 6TH-EARLY 3RD CENT. B.C.)
NORTHERN BLACK POLISHED WARE
PUNCH-MARKED COINS
II (C. 1100-C. 800 B.C.) PAINTED GREY WARE
I (PRE-1200 B.C.) 'OCHRE-COLOURED' WARE
NATURAL CLAY
SAND
CLAY
SAND
CLAY
490 FT
200 FT OMITTED
30 FT
KHĀDAR LEVEL
SILTED CLAY
SAND
POTSHERDS & BRICK-BATS
RIVER GRAVEL

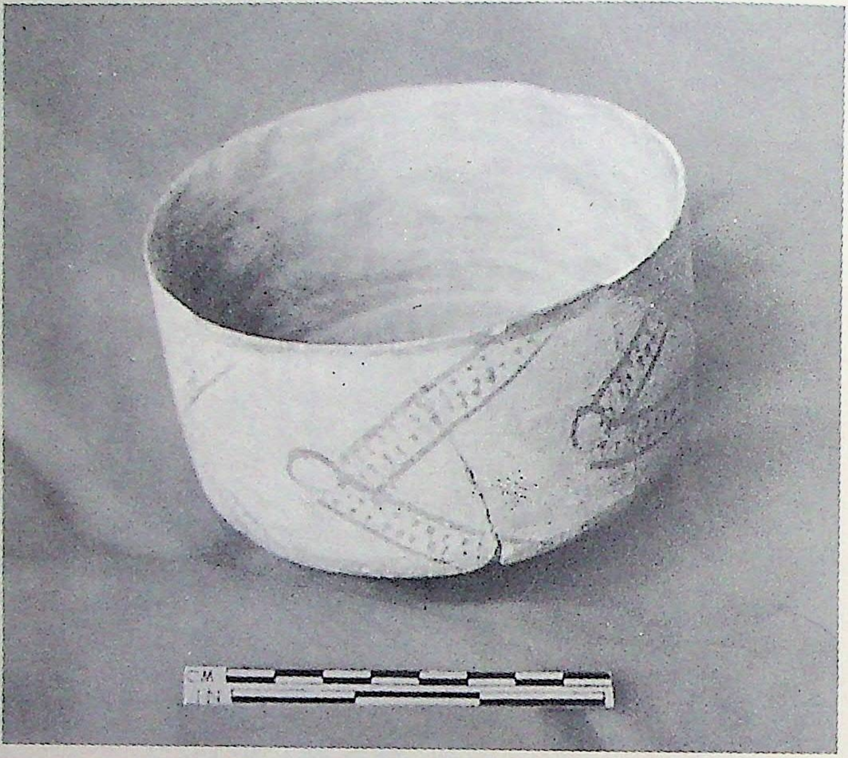
Fig. 2. Schematic Section Across Hastināpura Mound



Pl. I. Dish of Painted Grey Ware

absence of any better name, this was given to the pottery just because it left ochreous stains on the fingers when handled. No complete specimens were found and only small fragments lay embedded sporadically in a deposit of yellowish-brown clay which imperceptibly merged with the natural soil underneath. No other objects were met with. However, evidence from other Ochre Ware sites indicates that this ware often bore a red slip and was also sometimes painted with designs in black colour. The evidence from a site named Saipai, in Etawah District, Uttar Pradesh, conclusively shows that this ware was associated with what are known as the Copper Hoards. Besides other simpler types of tools, these hoards included harpoons, antennae swords, spearheads and anthropomorphic figures. However, as already stated, no such tool or, for that matter, any other antiquity was met with in the Ochre Colour Ware deposit at Hastināpura.

After an interval of time, the duration of which is difficult to determine but may have been anything up to half a millennium,



Pl. II. Bowl of Painted Grey Ware

the site was again occupied by people who used a very distinctive pottery called the Painted Grey Ware. As the name indicates, it was a ware with grey surface (and also a grey core), which was the result of its having been fired under reducing conditions in the kiln. On the surface, both inside and outside, there were designs painted in black colour, which included, besides simple horizontal or oblique lines, *svastikas*, sigmas, chains of short spirals, concentric circles, etc. The more noteworthy shapes in this ware were dishes, bowls (Pls. I & II) and globular drinking vessels. Though the associated culture-complex has since become known after this particular kind of pottery, as the Painted Grey Ware (PGW) Culture, the fact remains that this pottery was only the deluxe ware and accounted for just 10 to 15 per cent of the total pottery. There were also some specimens of a black-slipped ware, but the majority was that of a red ware, sometimes slipped.

Since, as already mentioned, the excavations were not horizontal in nature, no large-scale plans of houses were encountered.

However, walls of mud or mud-bricks were duly met with; so also a few examples of kiln-fired bricks. In order to give a better idea of the PGW Culture as a whole, we include here the data from other excavated sites of this culture-complex. Thus, the evidence from Bhagwanpura would indicate that some of the houses could have as many as thirteen rooms, besides a large open courtyard (Joshi, 1993). Bhagwanpura has also yielded evidence of substantial use of kiln-fired bricks.

In so far as the use of metal is concerned, it appears that there were two stages in the life of the Painted Grey Ware, in the earlier only copper/bronze was used, but later it was iron as well. Whereas some of the PGW sites in Punjab and Haryana belonged to the former stage, most of the sites in Uttar Pradesh have shown use of iron. The combined evidence from Hastināpura itself and from a site called Atranjikhera in Aligarh District, Uttar Pradesh (Gaur, 1983) indicates that the iron objects included tools for domestic use such as nails, hooks, axes and tongs and others that maybe used in warfare such as arrowheads, spearheads and daggers (Fig. 3). Jodhpura in Rajasthan has yielded a furnace with a side-hole into which the nozzle of the bellows could have been inserted to pump in air to raise the level of the heat as necessary. The use of iron by the PGW people is in marked contrast to its total absence during the Harappan times. Another noteworthy technological aspect of the PGW Culture was the manufacture of a variety of glass objects.

Agriculture and cattle-breeding seem to have been the mainstay of these people. The principal crops cultivated by them were wheat, barley and rice. The domesticated animals included the cattle, buffaloes, sheep, pigs and last but not the least, the horse. Wild animals were also hunted for meat and so also fishing was done.

The small finds associated with the PGW Culture included stone-moulds for jewellery, beads of semi-precious stones, antimony rods and nail-cutters of copper, ivory combs, etc. Amongst the terracotta figurines special mention maybe made of those having a fiddle-shaped body with pin-point decoration. This type continued well into the subsequent Northern Black Polished Ware Period and had a very wide distribution in terms of space. Of particular interest was a potsherd on which were engraved intersecting circles with centres duly marked. This not only shows the knowledge of

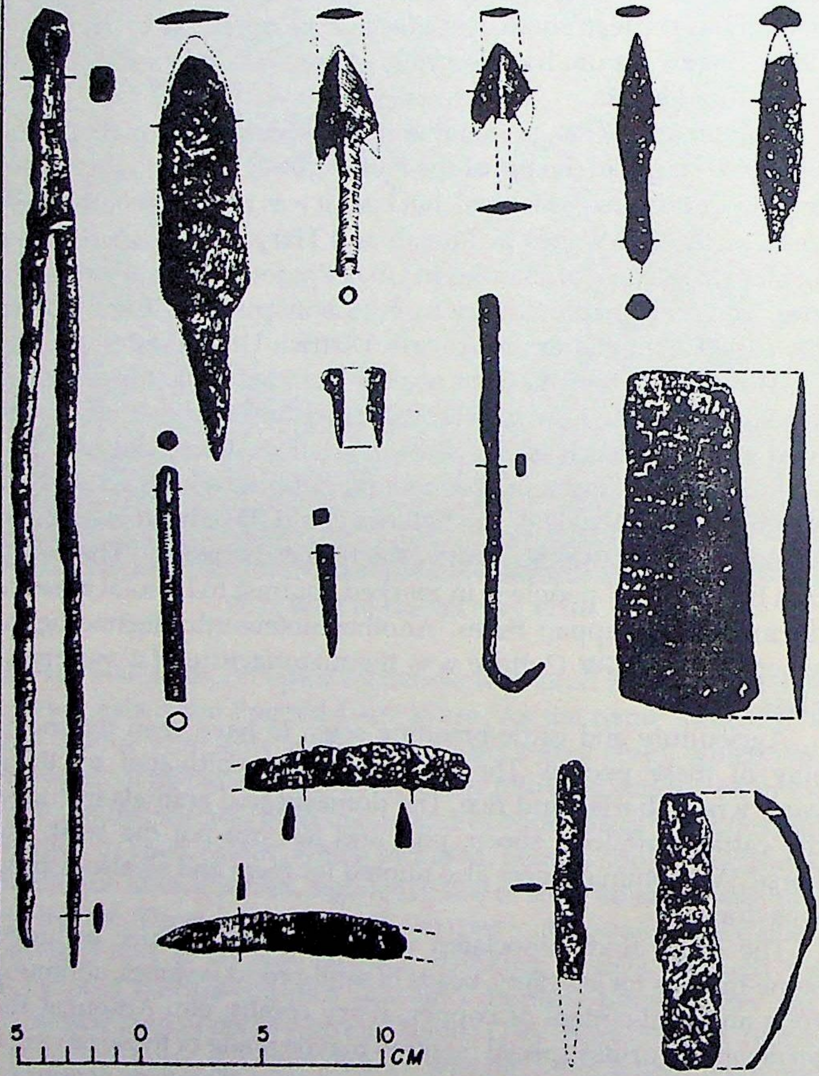


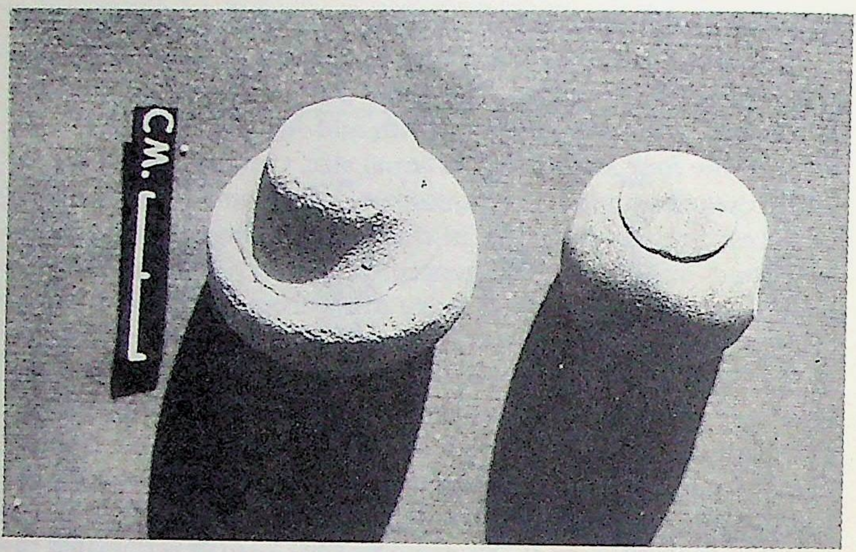
Fig. 3. Iron Objects Associated with Painted Grey Ware

geometry but also suggests the existence of a divider-like instrument.

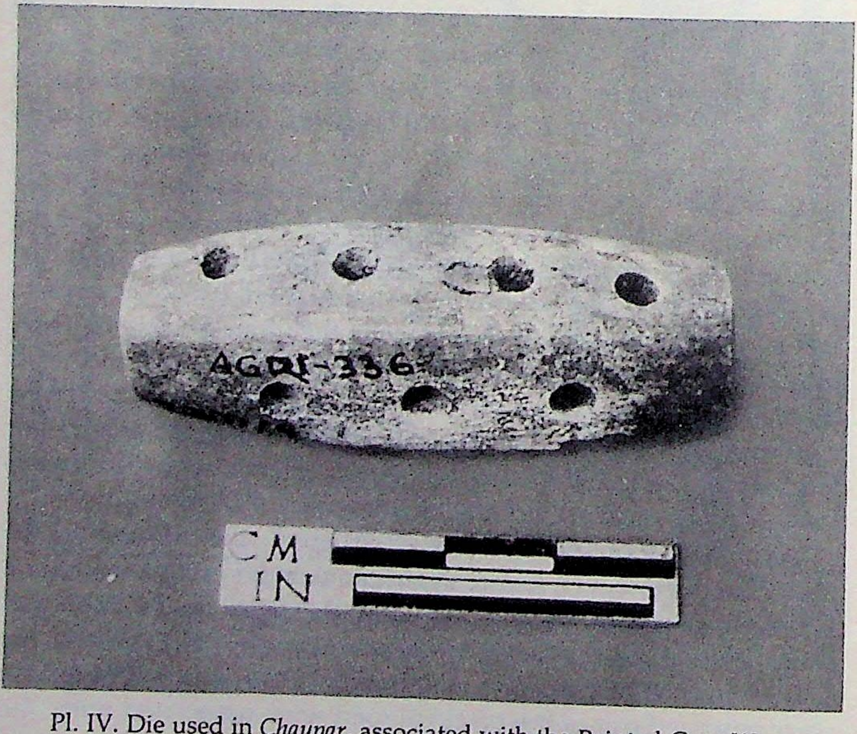
Amongst the games played by the people, *chaupar* or *chausar* deserves special mention. The game continues even to this day. The board is usually made of cloth and has the form of a cross with all the four arms being of equal size. On each arm there are three rows of squares. The gamesmen, usually made of wood and coloured, are plano-convex in shape, while the dice are square-sectioned oblong pieces, generally of ivory and marked on respective sides with blind holes numbering 1, 2, 3 and 4. It is obvious that one cannot expect the survival of the cloth-made board of the PGW times, because of the hot and humid climate of India. However, excavations at various sites have duly yielded gamesmen of the aforesaid shape, though in terracotta (Pl. III), and the dice, usually made of bone and bearing the aforementioned kind of the numbering arrangement (Pl. IV). In this context, it must be mentioned that it was at this game that the Kauravas defeated the Pāṇḍavas.

The PGW occupation at Hastināpura continued for quite some time as indicated by several structural levels, accounting for a thickness of about 2.5 m. However, its end was sudden and sad. A huge flood in the Gaṅgā washed away a considerable portion of the settlement on the river-front, with the result that the site had to be abandoned. The evidence of this flood and of the severe damage inflicted was duly discovered in the excavation. A huge scar left by the erosion was noted on the eastern face of the mound (Pl. V). At the foot of this erosional scar there lay scattered a part of the washed-away material, overlain by layers of silt and sand. On finding this kind of evidence in the excavation, it just occurred to us that it was not unlikely that some of the washed-away material may still be lying buried deep in the river-bed, although most of it must have obviously been carried away by the floods. Accordingly, we bored four holes in the adjacent river-bed and to our pleasant surprise found in these bores at a depth of 15 m below the water-level (Pl. VI), potsherds characteristics of the PGW Period.

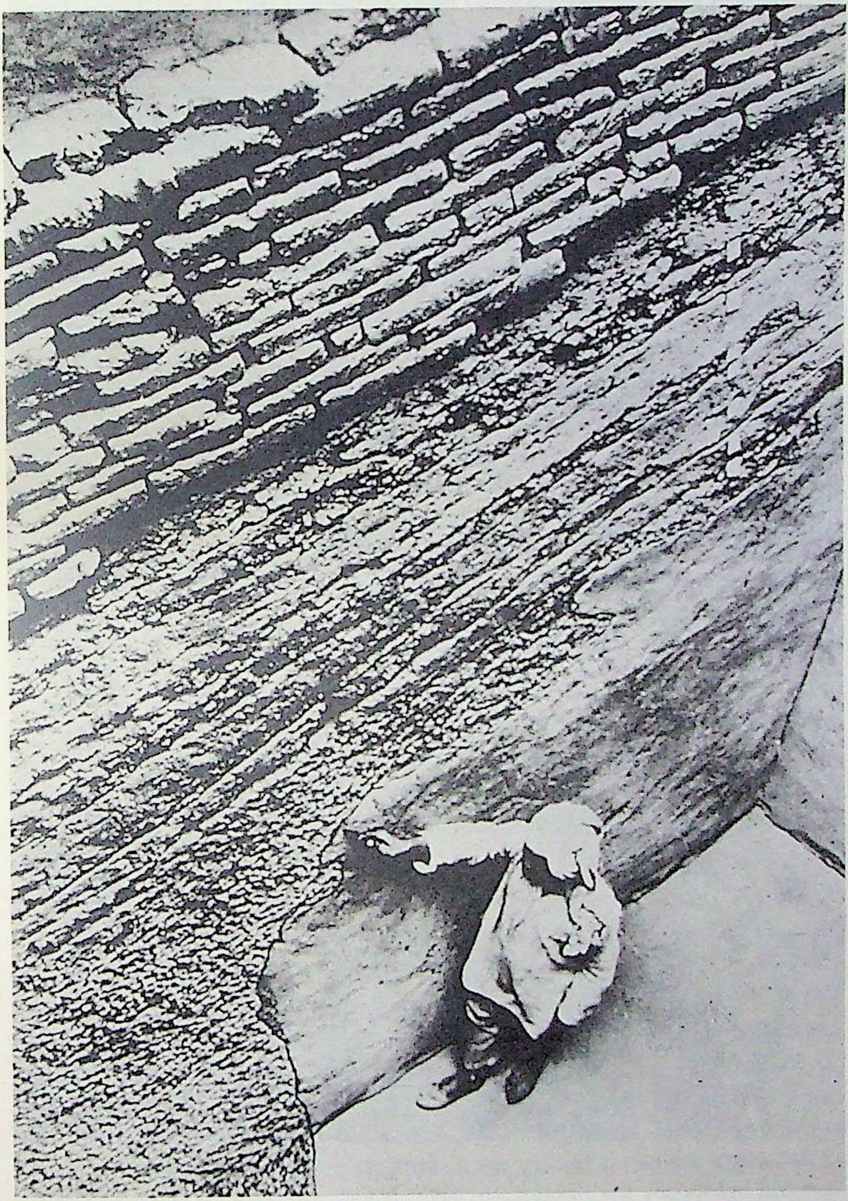
As a result of this massive destruction, the site had to be abandoned. However, it once again came under occupation after a couple of centuries. By now the painted designs on the PGW had disappeared and the fabric too became coarser. But some of the shapes, particularly the dish, continued. However, another deluxe ware emerged out of the black-slipped ware associated with the



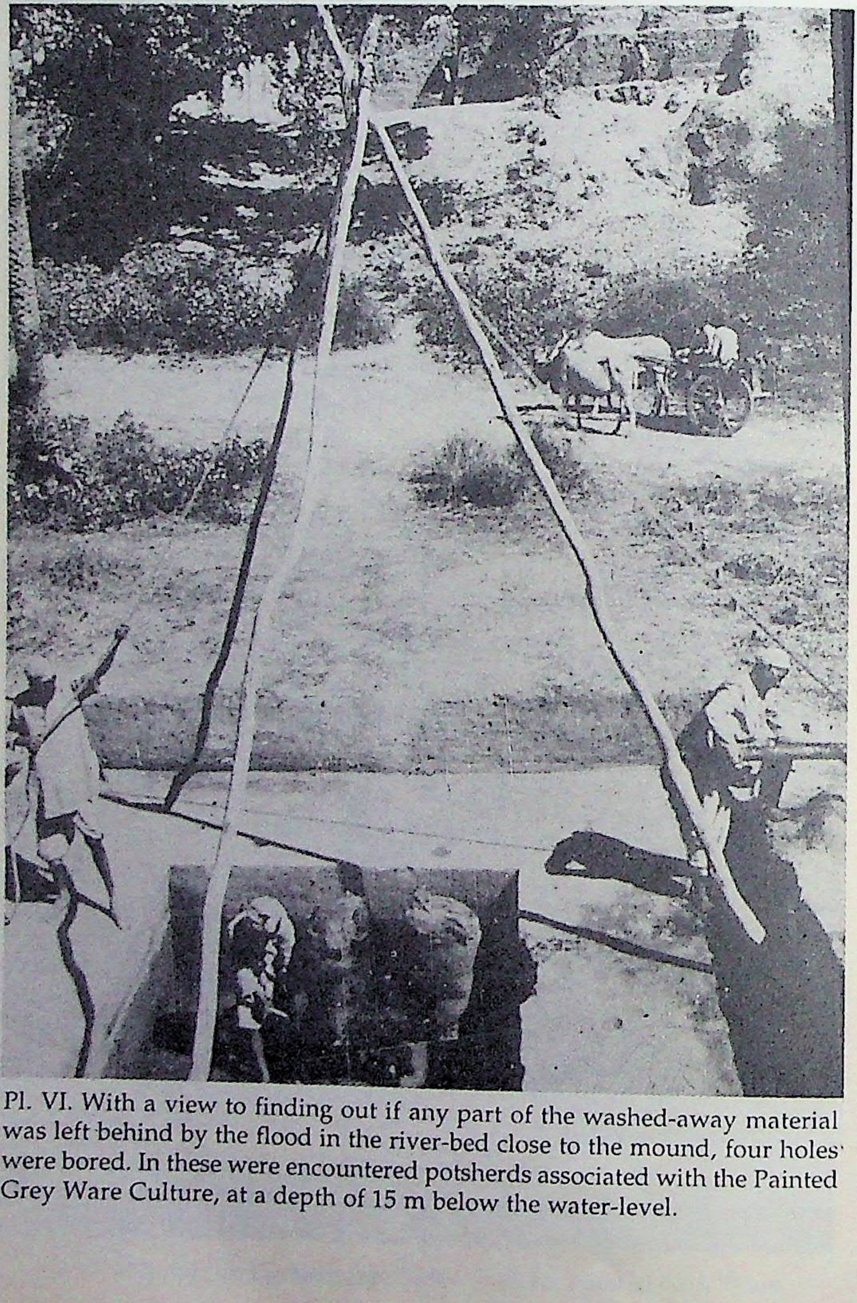
Pl. III. Gamesmen used in the game of *Chaupar*, associated with the Painted Grey Ware



Pl. IV. Die used in *Chaupar*, associated with the Painted Grey Ware



Pl. V. A heavy flood in the Gaṅgā washed away a major portion of the settlement at Hastināpura. The main points to the erosional scar left by the flood.



Pl. VI. With a view to finding out if any part of the washed-away material was left behind by the flood in the river-bed close to the mound, four holes were bored. In these were encountered potsherds associated with the Painted Grey Ware Culture, at a depth of 15 m below the water-level.

PGW. It is known to archaeologists as the Northern Black Polished Ware (NBPW). It had the same kind of fine grey core as that of the PGW. But the surface had a very fine lustrous slip in a variety of colours: black, indigo, silvery and golden. Shapes in the associated red ware also underwent some change. On the whole, the cultural component of Periods II and III, while showing a change, did reflect a generic relationship. This, it may be recalled, was quite in contrast to what happened between Periods I and II.

There are many other noticeable changes between Periods II and III. Thus, in the latter period there was profuse use of kiln-fired bricks, though no doubt mud bricks also continued to be used. With town planning, a system of public drainage also came into being for soakage of the sullage inside the houses, 'ring-wells' were used. That the economic level of the people had substantially risen is indicated by the introduction of systems of weights and coinage, both pointing to an augmentation in trade. Indeed, this was the time when the Sixteen States (*Ṣoḍaśa Mahājanapadas*) had come into being. It was also during this period that the two great religious figures, Buddha and Mahāvīra, were born. Nobody is sure about the time when the Brāhmī script originated, but it was during the NBPW times that we do have its clear evidence in the form of the inscriptions of the great emperor Aśoka.

The third occupation at Hastināpura too had a disastrous end. A large-scale fire engulfed the settlement, traces of which were noticed all over the area. As a result, the site was once more abandoned. However, this time also it was not long before the fourth occupation started. But there were some characteristics changes in the cultural equipment. For example, the Northern Black Polished Ware was completely given up and in the red ware, too, many new shapes made their appearance. There were new types of terracotta figurines, both male and female. The latter were distinguished by their round chubby faces, elaborate hairdo and ornaments, and are generally known as belonging to the 'Śuṅga' style. In the lower levels of this period were found the coins of the rulers of Mathurā (second century BC), followed by those of the Yaudheyas (datable to around the beginning of the Christian Era) in the middle levels, and imitation coins of the Kushāṇa king Vāsudeva (about the middle of the third century AD) in the upper levels. There is no evidence to indicate how this fourth occupation was abandoned.

However, there was a long gap between the fourth and the fifth (final) occupation of the site. This time the history was laid right in the medieval period. The ceramics were totally different and included two typically distinct glazed wares, one with a whitish sandy core and the other with a red and sturdy one. The former of these is known to have been introduced in India by the incoming Muslim rulers, while the latter seems to have been a local imitation of the former. That the scene was really set in the medieval times is established by the occurrence of a coin of Balban (AD 1266-87) in a middle level. With this period the settlement at the mound came to an end, though there do exist some later Jain temples in the neighbourhood. In fact, an altogether new settlement, planned by the Uttar Pradesh government has come up since we wound up our excavation in the middle of the last century.

THE CHRONOLOGY

We may now turn our attention to the chronological horizon of the various periods at Hastināpura. As per the details already given above, Period V is datable to ca. eleventh-fifteenth century AD and Period IV to ca. second century BC-third century AD. Since there was a gap between Periods III and IV, the end of the former may reasonably be ascribed to the third century BC. Up to this point the chronology is based entirely on the evidence of coins. Prior to this we have to fall back on a different kind of evidence.

When in 1951-52 Hastināpura was excavated, the Carbon-14 method of dating was not available in India and we had, therefore, to take recourse to what is called 'comparative stratigraphy'. Thus, for dating Period III the main basis was the occurrence, all through the strata, of the Northern Black Polished Ware. Excavations at Bhir Mound in Taxila (now in Pakistan), carried out much earlier, had given a very secure chronology of this ware. There eighteen specimens of the NBPW had been recovered, of which only one was found within the top 1.8 m, while the rest came from depths varying from 1.8 to 3.9 m below the surface. And here is the most significant point in the chronology of the NBPW. At a depth of 1.8 m below the surface were the coins of Alexander in a mint condition. It was therefore clear that at Bhir Mound the NBPW was essentially pre-Alexandrian in date. The 2.1 m thick regular occupational deposit (between 1.8 and 3.9 m) would show that at Bhir Mound the NBPW had made its appearance as early as the sixth century BC. Since the NBPW is essentially a product of the Gaṅgā valley, its emergence in the valley itself may well go back to the seventh century BC. With this kind of comparative data, the beginning of Period III at Hastināpura was dated to early sixth century BC.

Since there was a break of occupation between Periods II and III, and there were also some major elements of cultural evolution from the former to the latter period, as mentioned earlier, the end of Period II is unlikely to have been later than the eighth century BC. With this as the upper limit and with about 2.5 m thick regular occupation deposits, the site is likely to have been occupied by the PGW people around 1100 BC.

As already mentioned, there was not only a break of occupation between Periods I and II, but also a fundamental difference between their respective cultural assemblages. Thus, Period I must have well preceded 1200 BC.

The above chronological assessment of the various periods was made prior to the introduction of the Carbon-14 method of dating in India. It is, however, interesting to note that even after the application of the C-14 method, the position has remained by and large the same. In a paper of mine, published in 1980, I have given full details in this regard. Here, however, we give the gist of it.

There are five radiocarbon dates for Hastināpura, but all these pertain to the upper levels. Taking MASCA correction into account, these fall between 720-600+/-125 BC and 400+/-115 BC. This would indicate that the PGW settlement at Hastināpura may not have begun much before 800 BC. But here is a major snag in the application of these radiocarbon dates. The laboratory report clearly adds a rider that all these samples were mixed with rootlets and hence contaminated. One is thus left with no choice but to reject these Hastināpura dates, and turn round to the radiocarbon data from other PGW sites in the region. The middle PGW levels at Noh, District Bharatpur, Rajasthan, have yielded three C-14 dates. With the application of MASCA correction, these come to: 900+/-225 BC, 805+/-150 BC and 745+/-260 BC. This would mean that the beginning of the PGW settlement at Noh would go back to the eleventh-twelfth century BC. A similar evidence is provided by the site of Atranjikhera, already referred to earlier. Here, again from a mid-PGW level comes a C-14 date of 1025+/-110 BC, which on MASCA correction comes to 1155+/-110 BC. All the foregoing radiocarbon dates fully support the dating of the PGW settlement at Hastināpura, arrived at in 1952 by the comparative method, namely from *ca.* 1100 to 800 BC.

As regards the dating of Period I of Hastināpura, thermoluminiscence dates from four other Ochre Colour Ware sites in the region, viz. Atranjikhera, Lal Qila, Nasirpur and Jhinjhana, provide collateral evidence (see Lal, 1972). Three of these dates range between 2650 and 2000 BC, another three between 2000 and 1500 BC and two in the neighbourhood of 1200 BC. Thus, the pre-1200 BC date suggested in 1952 for the OCW occupation at Hastināpura was fairly reasonable, if on the conservative side. Maybe, the settlement dated between 2000 and 1500 BC, but no one could be too sure of it.

THE HASTINĀPURA ARCHAEOLOGICAL EVIDENCE VIS-À-VIS THE *MAHĀBHĀRATA*

At Hastināpura, five periods of occupation have been found. Of these, the uppermost two (Periods V and IV) do not at all call for consideration in the context of the *Mahābhārata*, since these are far away from the likely date of that episode. Even Period III will have to be ruled out, since its dates range between 600 and 200 BC. Buddha and Mahāvīra lived in the earlier part of this period and as already stated at the beginning of this paper, if the Mahābhārata episode had any basis in history, it had to be pre-Buddha and pre-Mahāvīra.

We are now left with only Period I and II in the consideration zone. We would have opted in favour of Period I had there not been a very major snag. Of the large number of the Mahābhārata sites enumerated in the earlier part of this paper, only two, viz. Hastināpura and Ahichchhatrā, have yielded the Ochre Colour Ware. Thus, if the Mahābhārata scene is laid in the OCW period, sites like Mathurā, Indraprastha, Pāṇiprastha, Vṛikaprastha, Vāraṇāvata, Tilaprastha,Virāṭanagara, Kurukshetra, Kāmpilya, etc. were not at all in existence at that point of time. Could the Mahābhārata episode have been enacted without these sites? Obviously, not. Hence, the OCW occupation at Hastināpura could not claim its association with the Mahābhārata episode.

Thus, in final analysis of the archaeological evidence from Hastināpura, it is only the Painted Grey Ware Culture that qualifies for its association with the Mahābhārata period. In this context it must also be emphasized that all the sites associated with the

Mahābhārata, to which a reference was made in the earlier part of this paper, have invariably yielded the Painted Grey Ware – a fact which links them together.

And now we recall the most vital archaeological evidence ever recovered from Hastināpura. It is that the destruction of the PGW settlement at the site by a flood in the Gaṅgā. In this context, the texts aver:

> *Gaṅgayāpahṛite tasmin nagare Nāgasāhvaye*
> *Tyaktvā Nichakṣur nagaram Kauśāmbyām sa nivatsyati*

i.e. 'When the city of Nāgasāhvya (Hastināpura) is carried away by the Gaṅgā, Nichakṣu will abandon it and dwell in Kauśāmbī.'

While the aforementioned archaeological evidence duly confirms the destruction of Hastināpura by a flood in the Gaṅgā, we have to find out if there is any evidence about the shifting of the capital to Kauśāmbī. This could best come from a contemporary inscription mentioning that event. But, alas, there is no such inscription! As is well known, we do not yet have any inscription dating prior to the fourth century BC. Then is there any other kind of evidence which may throw light on the issue? The situation is not so bad as it would appear to be. Here again archaeology comes to our rescue. In the lowest levels of Kauśāmbī have been found sherds of the Painted Grey Ware. The Kauśāmbī PGW, however, does not present the ware at its peak, as it does in the middle levels of Hastināpura. The Kauśāmbī specimens bear only simple linear designs and are bereft of the more variegated ones like sigmas, *svastikas*, chain of spirals, etc. The texture is also slightly coarser. But these are the very features which have their own significance. They represent the decadent stage of the ware and thus provide a significant link between the fag-end of Hastināpura and the beginning of Kauśāmbī.

The Kauśāmbī PGW levels are bereft of any NBPW, which appeared only later. And since the emergence of the NBPW in the Gaṅgā valley is likely to go back to the seventh century BC, the PGW levels at Kauśāmbī may well be dated to ca. 800 BC. Thus, put together, the archaeological evidence from Hastināpura and Kauśāmbī would show that the flood at and the consequent desertion of the former site and the establishment of a settlement at the latter can safely be placed around 800 BC. It maybe recalled that the flood occurred during the reign of Nichakṣu who was the fifth ruler in succession from Parīkshit and the latter, in turn, ascended the throne of Hastināpura immediately after the Mahābhārata War. Thus, the War itself may be deemed to have taken place around 900 BC.

The above-mentioned date of the Mahābhārata War, arrived at on archaeological grounds, may now be cross-checked with the literary evidence. The texts say that after Nichakṣu there were nineteen rulers at the Kauśāmbī before Udayana came to the throne. While skeptics may doubt the historicity of the earlier kings of Kauśāmbī, even they would not deny that there existed a king called Udayana, since his contemporaneity with Buddha has never been questioned. It was he who invited Buddha to visit Kauśāmbī and the latter duly responded. Buddha passed away in 487 BC. Thus, Udayana can well be taken to have ruled around 500 BC.

Now comes the most baffling aspect of the issue: How many years did actually elapse between the time of Nichakṣu and that of Udayana? And the answer at once falls in the realm of subjectivity. There have been a number of estimates for the average reign per ruler. There are those who hold it to have been 33 years or even 37, but most sober scholars regard it to be an over-estimation. There are, however, other moderate estimates which deserve consideration. While A.L. Basham puts it at 19 years, Pargiter does it at 18. However, even while recommending the estimate of 18, Pargiter (1962: 181-82) inserts a caveat:

> I have examined 14 series of dynasties from 20 to 30 kings in various eastern and western countries; the longest average just exceeded 24 years in one case, the shortest was about 12 and the average of all was 19; but the average was higher in western countries and lower in the eastern countries. Hence the medium average for these contemporary eastern dynasties must be taken something less than 19 and 18 will be a fair, even liberal estimate.

Like Pargiter, I thought of doing my own exercise; and since the problem is related specifically to India, I thought of examining it in the light of Indian dynasties whose dates are already well known. Thus, to begin with, I took up the Muslim rulers of Delhi. Quṭbuddin Aibak was the first one to occupy the throne of Delhi after defeating Prithvi Raj Chauhan. The last Muslim ruler of Delhi was Bahadur Shah Zafar whom the British ousted. Altogether there were 47 rulers from the first to the last, and the total duration of their reigns was 652 years. This gives us an average of 13.9 years per ruler. When this average was presented to scholars, they were not happy with it, arguing that since there were many coups and killings in the various Muslim dynasties, the average is bound to be low. But they forgot that while some of the kings may have ruled for only a couple of years, there were others like Akbar and Aurangzeb each of whom ruled for nearly half-century. But this did not satisfy them. So I took up the ancient Hindu dynasties. Of these, the Guptas gave the highest average, which stood at 17.6 years. On the other hand, the Kaṇvas yielded an average of only 10.5 years and the Śuṅgas that of 11.2. The Mauryas stood in between. On piecing together the averages of all the Hindu dynasties whose reigns are well fixed, it was observed that their overall average was still a little less than 14 years per ruler. Thus, in the Indian context, whether medieval or ancient, the safe and reliable average would be around 14 years.

Taking this average of 14 years per ruler and multiplying it with the number of rulers that preceded Udayana back to the Mahābhārata War, viz. 24(19 from Udayana to Nichakṣu and 5 further back to the War), the total period that elapsed would be 14 x 24 = 336 years. Since, as already stated, Udayana was ruling around 500 BC, the date of Mahābhārata War would work out to around 836 BC. It would, however, be too presumptuous to stick to a precise figure like this, and all that one can say is that even the literary-cum-historical analysis supports the date of ca. ninth century BC for the War, arrived at on the basis of the combined archaeological evidence from Hastināpura and Kauśāmbī.

OTHER DATES EXAMINED

But a doubt lurks in my mind if such a late date would please the orthodox school of scholars, for to them the Mahābhārata War is very 'hoary', going back to 3102 BC. The reason why they regard it to be so early is that an inscription at Aihole, dated to Saka year 556, i.e. AD 634-35, mentions that 3735 years had elapsed since the Mahābhārata War. In this context, it must be emphasized that there is no mention of this kind in any other inscription, earlier or later, and thus one wonders where the author of the Aihole inscription got his information from – suddenly 3735 years after the event. Added to this is the fact that, as the archaeological data indicate, in 3102 BC the entire region where the Mahābhārata story was enacted was bereft of any habitational remains. However, there are a few other dates which do call for consideration: for example, 1424 BC (proposed by K.P. Jayaswal), 1400 BC (A.S. Altekar), 950 BC (F.E. Pargiter) and ninth century BC (H.C. Raychaudhury). As regards the first two dates, it may be recalled that this was the time up to which the Copper Hoard-cum-Ochre Colour Ware Culture may have persisted. But then, with the exception of Hastināpura and Ahichchhatrā, the remains of this Culture have not been found at any of the other sites figuring in the Mahābhārata story. Also conversely, no other Copper Hoard-cum-Ochre Colour Ware site, such as Nasirpur, Bahadarabad, Jhinjhana, Saipai, Bisauli, to name just a few, find any mention in the *Mahābhārata*. How can then one correlate the two?

We are now left with 950 BC (Pargiter) and ninth century BC (Raychaudhury). Pargiter's dating is based on the average of 18 years per reign. However, he himself thought this average of be "liberal", and, as shown earlier, a more reasonable average would be 14 years. Thus, even Pargiter's dating is a little off the mark. Raychaudhury's dating has an additional merit. He steers clear of the oft-debated Pauraṇic data and uses completely independent evidence, viz. that of the later Vedic texts. Thus, basing his arguments on the teacher-disciple sequence given in these texts, and working backwards from the known ones, he observes that the time of Parīkshit, who ascended the Hastināpura throne immediately on the conclusion of the Mahābhārata War, is likely to have been somewhere in the ninth century BC. And this is precisely what our archaeological evidence suggests.

Before we wind up this discussion on the date of the Mahābhārata War, one more aspect of the issue also needs to be examined. In recent years a late Harappan site, encroached upon by the sea, has been discovered at Dvārakā where Kṛiṣṇa lived in the later part of his life. Thus, according to this view, the Mahābhārata episode must have taken place some time at the beginning of the second millennium BC. However, there are two snags in this argument. In the first place, there were various settlements at Dvārakā, ranging from the late Harappan times all the way up to the medieval period, and there is no sound basis to identify any particular settlement, to the exclusion of the others, as having been associated with the time of Kṛiṣṇa. Secondly, and this is no less important a point to be considered, during the occupancy of this particular Dvārakā which is supposed to have been of the time of Kṛiṣṇa, namely at the beginning of the second millennium BC, none of the key-sites associated with the Mahābhārata story, even Mathurā from where Kṛiṣṇa himself hailed, was in existence. What then is the validity of this particular Dvārakā without there having been any contemporary Mathurā?

THE PICTURE AS IT FINALLY EMERGES

The foregoing archaeological evidence from Hastināpura and other sites related with the *Mahābhārata* indicates that it is the Painted Grey Ware Culture that was associated with it and that the event took place some time in the ninth century BC. But then a very vital question still remains unanswered. The *Mahābhārata* speaks of well-organized townships, palatial buildings and extraordinary weapons of warfare, whereas the Painted Grey Ware Culture cannot boast of any of these. A little pondering over the issue would, however, tell you that the answer lies in our proper understanding of the origin and growth of the *Mahābhārata* itself. As stated at the beginning of this paper, there were three factors that came into play. In the first place, even the earliest part of the text, which may not be earlier than the second century BC, is at least seven centuries later than the event itself. Secondly, the earliest version of the text, called the *Jaya* and having only 8,800 verses, suffered at least twice from major interpolations: first it rose to a 24,000-verse document and was known as the *Bhārata*, and now we have the *Mahābhārata* loaded with more than a 100,000 verses. Further, this inflation was not a one-day affair. The process was spread over a period of more than six centuries, right up to the Gupta times in the fourth century AD. And it is well known that the contemporary styles of living, art, architecture, etc., find their way most normally in a book. Thus, the inspiration for the town planning, high-rise buildings, etc., mentioned in the *Mahābhārata* may have come from the then prevailing conditions when the relevant parts were actually written. Finally, it must also be recognized that the *Mahābhārata* was definitely not meant to be a history book wherein facts and figures are expected to be accurately recorded. It was a *prabandha-kāvya*, an epic, in the writing of which the poet's imagination is completely unfettered.

APPENDIX

In the previous pages we referred to the various kinds of subsequent additions to the Mahābhārata story. How this process of interpolation and inflation takes place can be exemplified by something very recent, of which the present writer has had a personal experience.

It was January 1954. I was travelling from Calcutta to Delhi on an official visit. Piercing the mist of the morning, my train, Kalka Mail, steamed into Allahabad railway station. Suddenly I saw thousands and thousands of people jostling with one another on all the five-six platforms the station has. They were desperately trying to get out of Allahabad and never bothered about either buying a ticket or about the class of compartment they were getting into. About thirty people forced their way into my small compartment as well. In about ten minutes the train steamed off. I really could not make out what had happened and the incomers too were so horrified that except for occasional shrieks nothing came out from their mouths. They were completely exhausted and aghast and detrained in batches as their respective stations arrived.

By the evening I too reached my destination. After dinner, I switched on the radio. (There was no television – at least in India – at that time.) In came the news that scores of people had died and hundreds injured in the Kumbha Mela at Allahabad. Lakhs of them had gathered for a dip in the holy Gaṅgā on this occasion. Amongst the people who had assembled were Naga Sādhus (naked mendicants). The news had it that when these Sadhus were moving in, the elephants ran amuck and a few persons were run over. Out of fear, those nearby started running away. This set in a chain reaction and without even pausing to ascertain the extent of the problem, the entire crowd started running helter-skelter. In the great melee that followed, hundreds of men, women and children were trampled over. Many breathed their last on the spot, while hundreds got severely injured. Later, when the crowd somewhat thinned down, police vans took the injured to the hospitals and the dead to mortuaries for subsequent identification and cremation. During the pandemonium, the criminals had a field-day. They not only robbed the women folks of their jewellery, but even molested some of them. Most of these details came out in the newspapers the next morning. Later on the government, as usual, instituted an enquiry, and so on.

That was in 1954. Some thirty years later, we were excavating at Śṛiṅgaverapura, near Allahabad. We had the practice of sharing a week-end evening with the workmen, with a lot of dance and music. On one of the evenings I had a real surprise. One of the workers, playing on his *khartals*, sang to us a ballad which narrated in great detail the Kumbha Mela incident referred to above. Later on I learnt that, besides this Śriṅgaverapura version, there were two others, created by the ballad-singers respectively from Jhusi and Daraganj. While the basic fact, *viz.* that there occurred such and such incident at Allahabad on the occasion of the Kumbha Mela in 1954, constituted the core of all the three versions, each one had a lot of its own *mirch-masālā* (spicy additions and interpolations) so much so that one did not know which one to believe. When such deviations and distortions can take place in the narration of an event which took place before our very eyes and which was also immediately reported by electronic and print media, no wonder that the nucleus of the *Mahābhārata*, which must have been sung in the form a small ballad to begin with, swelled out of all proportions into perhaps one of the largest poetic narratives ever produced by mankind. The simple lesson is that we ought to be discerning enough to separate the wheat from the chaff.

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2

Mahābhārata and Archaeology

V.D. Misra

The two great Indian epics, the *Rāmāyaṇa* and the *Mahābhārata*, constitute the bedrock of Indian culture. They have sustained the Indian culture through the ages. However, the forms in which these two epics are available at present, were given to them across the centuries. The core of epics, particularly that of the *Mahābhārata*, would not have been so voluminous. The available *Mahābhārata* itself indicates at least three horizons. First it was known as *Jaya*. In that stage it contained only 8,800 *ślokas*. But with the passage of time this narrative got inflated in size and its name was also changed. Now it was known as *Bhārata* containing 24,000 *ślokas*. In the final form it became *Mahābhārata* with one lakh *ślokas*.[1] It is presumed that by 4th century AD, epic had acquired this form. Scholars like Winternitz pointed out that *Mahābhārata* as it stands, is a work of eight centuries ranging from 4th century BC to 4th century AD. But there is reason to believe that in the available *Mahābhārata* there might be passages antedating the 4th century BC.[2] Didactic portions of the epic, particularly the Śāntiparvan and Anuśāsanaparvan, appear to have been added to it later on, before or around 4th century AD.

There is a controversy about the historical contents of the *Mahābhārata*, as it was long back about the contents of the Homeric epics. One would appreciate that in an age when there was no printing press, the narrative contents of the epic were preserved in floating traditions and as such additions would have been made to the core of the story with the passage of time. In that process, myths and legends would have been created and the original character of the epic changed. But question is whether the epic, as it stands, has historical core at all or it is only a figment of imagination. Before addressing this question one has to carefully separate the wheat from the chaff. The narrative of the *Mahābhārata* centres around a conflict between two cousins – the Kauravas and the Pāṇḍavas. The original theme seems to be simple and the characters involved are associated with contiguous areas. If one has to construct the original story, the places like Hastināpura, Kurukshetra, Indraprastha, Mathurā, Kāmpilya, Bairāt, etc. would constitute an integral part of the story. The epic, as it is available, has acquired an all-India character but incorporation of various regions in the epic was a later phenomenon. But the question remains whether the epic contains historical core or not. In this connection the following points deserve attention[2]:

1. Dhṛitarāshṭra, a son of Vichitravīrya, is mentioned as a king of Kuru-Pañchāl region in the *Kāṭhaka Saṁhitā* (X.6).
2. Devāpi sacrificed for his brother Śāntanu as per the anecdote recorded in the *Ṛigveda* (X. 98).
3. Bharata, an ancestor of the Kauravas and the Pāṇḍavas, is reported to be son of Śakuntala and Dusiyanta (*Śatapatha* XIII. 5, 4, 11-12; *Aitareya Brāhmaṇa* VIII. 23).
4. Parikshit and his son Janamejaya are mentioned in the *Ṛigveda* (VII.18.12); *Aitareya Brāhmaṇa* (VIII. 21, IV. 27, V. 34, VII. 27), and *Śaṅkhāyana Śrauta Sūtra* (XVI. 8.27).
5. Purūrvas and Urvaśī, the originator of the Lunar dynasty, are mentioned in the *Ṛigveda* (X. 95.2-18) and *Śatapatha Brāhmaṇa* (XI. 5.1.1).
6. Devakīputra Kṛishṇa is mentioned in *Chhāndogya Upanishad* (III.17.6).
7. In the *Ashṭādhyayi* of Pāṇini (5th century BC) Krishṇa and Arjuna are deified.
8. Both *Bhārata* and *Mahābhārata* are mentioned in *Āśvalāyana Gṛihya Sūtra*.
9. 'Bhārata' War is mentioned in *Śāṅkhāyana Śrauta Sūtra* (5th century BC) (XV. 10-16).

Taking the above factors into consideration, it appears that some of the characters found associated with the story of the *Mahābhārata* are found mentioned right from the later Saṁhitās upto Pāṇini. This suggests some historical basis to the story of the *Mahābhārata*.

However, in this connection, the following observations are

Winternitz also deserve serious consideration[4]:

1. Individual sagas, legends and poems which were included in the *Mahābhārata* go back to the Vedic period.
2. The epic *Bhārata* or *Mahābhārata* did not, however, exist in the Vedic period.
3. Many moral stories and sayings which are contained in the *Mahābhārata* belong to the ascetic poetry, from which some Buddhists and Jainas have drawn from 6th century BC onwards.
4. If between the 6th and the 4th centuries BC the epic *Mahābhārata* had already existed, then it was not yet known in the motherland of Buddhism.
5. The existence of the epic called the *Mahābhārata* before the 4th century BC, has not been proved beyond doubt.
6. Between the 4th century BC and the 4th century AD the transformation of the epic *Mahābhārata* into its present form took place.
7. In the 4th century AD the work had on the whole already acquired its present volume, content and character.

Regarding the date of the battle there is considerable diversion of opinion and different dates have been suggested ranging from 3102 to 900 BC.[5] Now if we accept the historicity of the battle of the *Mahābhārata*, we have to accept that Hastināpura, Kurukshetra, Indraprastha, Mathurā, Ahichchhatrā, Kāmpilya, etc., as mentioned in the epic, are identical with their present namesakes, since no duplicate Hastināpura, Mathurā, Kāmpilya, etc., have been located so far. According to the testimony of the Purāṇas, Nichakshu was the fifth descendant of Parikshit.[6] During the reign period of Nichakshu the Gaṅgā washed away considerable portion of Hastināpura and consequently Nichakshu had to shift his capital to Kauśāmbī on the Yamunā.[7] King Udayana of Kauśāmbī, a contemporary of Buddha, stands 24th from Parikshit.[8] If we proceed from 500 BC as a central figure in the reign period of Udayana and tabulate the reign periods of his predecessors on the basis of average of the eighteen years per ruler on the basis of the known historical dynasties, we come to about 950 BC as the date of the battle of *Mahābhārata* as per Pargiter.[9] This date appears to be correct because around this period all the sites having relevance to the story of the *Mahābhārata* are found in occupation and from all these sites, an identical ceramic assemblage typified by the Painted Grey Ware has been obtained.[10]

In this connection, it maybe pointed out that if we accept other proposed dates, a lot of problems would arise. For example, if we accept 3102 BC as the date of the battle, then we have to obtain the archaeological relics pertaining to that age in the upper Gaṅgā Valley but such evidence has not been obtained so far. If we accept 1400 BC as the plausible date of the battle, that would also not solve the problem. Even though, from the upper Gaṅgā Valley, a pottery known as Ochre Coloured Pottery has been obtained from some of the sites related with the story of the *Mahābhārata*, i.e. Hastināpura,[11] Ahichchhatrā[12], etc., but this pottery is not reported from the other sites associated with the story of the *Mahābhārata*. Moreover, it appears that the people who participated in the battle had been using iron weapons[13] but in the present state of our knowledge the antiquity of iron in the upper Gaṅgā Valley cannot be pushed to 1400 BC. But it was definitely known to the PGW using people as is evident from the excavations from Alamgirapur,[14] Ahichchhatrā,[15] Atranjikhera,[16] Jakhera,[17] etc.

Some scholars have pointed out that the archaeological relics as obtained from the Painted Grey Ware sites in the upper Gaṅgā Valley do not match with the narrative of the *Mahābhārata*. But in this connection it maybe pointed out that the epic as it stands today contains horizons of different periods. The narrators went on adding the objects of their ages to the *Mahābhārata*. To understand the truth we have to sort it out from the myth. It is a fact that the bed of Bhīshma, the macehead of Bhīma, the bow and arrows of Karṇa and Arjuna and the glittering palace of Yudhishṭhira of Indraprastha have not been exposed at the relevant excavated sites. But these would never be exposed since these did not exist. On these issues we have to make a due allowance for poetic imagination. For understanding the narrative of the epic these details are not required. In the light of the available evidence, the thesis of Prof. B.B. Lal associating the Painted Grey Ware with the age of the battle of the *Mahābhārata*[18] has the unique merit of reconciling the archaeological evidence with the known literary data.

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4. Maurice Winternitz, *op. cit.*, pp. 453-54.
5. For details see B.B.Lal, *Ancient India*, Nos. 10-11, p. 149, S.P. Gupta and K.S. Ramachandran, ed., *op. cit.*, 1976.
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8. *Ibid.*
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14. *Indian Archaeology: A Review*, 1958-59, p. 50.
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3

The *Mahābhārata*
A Critical Study of Archaeological Data

I.K. Sarma

The *Mahābhārata*, a *mahākāvya*, an epic poem, a great *itihāsa*, is regarded by all Indians as the *Pañchama Veda*. The thought contents of *Mahābhārata* belong to *philosophia perennes*. It is believed that places associated with it, the material culture, life patterns, the war weapons, transport of the times and the *Janapadas* (states) associated with the great battle might provide, if researched methodically, an archaeological identity to the culture as well as associated personalities. One should not assert that Mahābhārata War was a fiction or a simple family feud at the most. The wars were epoch-making and historical, the core of the story of wars maybe totally true and many *upākhyānas* have been added down the centuries to highlight and illustrate the *dharma*.

Yadihāsti tadanyatra, yannēhāsti na tatkrachit meaning, whatever has been stated here is found elsewhere, what is not found here is found nowhere.[1] Aśvalāyana refers to *Bhārata* and the *Mahā-Bhārata*.[2] Pāṇini (6th century BC) deals with the compound word *Mahā-Bhārata* thus – "*Mahān Vrīhi-bhāra-bhārata-pravṛiddheshu*". Vyāsa, the author of *Mahābhārata*, was also famous by the names Dvaipāyana and Bādarāyaṇa. Kātyāyana (4th century BC) cites the name of Vyāsa.[3]

As A. Ghosh held, "The result of Archaeology are viable and valuable in their own right, but tradition with all its versions and self-contradictions is immutable. Archaeology can confirm tradition, interpret it or reject it but cannot certainly alter it or create a new one".[4] As also pointed out by Sankaranarayanan, "Literature without Archaeology is lame and Archaeology without literature is blind".[5] Again A. Ghosh's pertinent remark way back in 1954 deserves to be recapitulated.

> It is indeed tempting to utilize archaeological evidence for substantiating tradition, but the pitfalls in the way should be guarded against, and caution is necessary that fancy does not fly ahead of facts.[6]

COMPOSITION AND DATING OF THE *MAHĀBHĀRATA*

The Kurukshetra war of the *Mahābhārata* has been the theme of several symposia and seminars for almost last fifty years. Conscious of the fact that though centuries of additions and alterations have crept in and made the epic, yet we cannot totally disbelieve its historicity at least the kernel of it, i.e. *Jayasaṁhitā*.[7] The *Mahābhārata* originally consisted of 8,800 verses under the title *Jayasaṁhitā*. It was enlarged to 24,000 verses and came to be known as *Bhārata*. Finally, it had one lakh verses and became *Mahābhārata*.[8]

We will examine here the various dates proposed for the events of the Mahābhārata War.

(1) A traditional group of scholars held that the Mahābhārata War was fought around 3102 BC. This is vouched for by the ancient Indian astronomers like Āryabhaṭṭa (5th century AD) and the Aihole *praśasti* (dated AD 634) of the Chālukyan king Pulakesi II.

(2) The second group of scholars date the event to 2600-2500 BC. Varāhamihara (AD 505) followed later by Albiruni (11th century AD), Kalhaṇa (AD 1150)[9] and Hisse-Borala inscription (AD 458) of the time of the Vākāṭaka ruler Devasena, are cited in support of this theory.

(3) The third group of scholars (K.P. Jayaswal and A.S. Altekar) favour a date range of 1400-1000 BC.[10] This is based on a Purāṇic passage which placed 1050 years as a period intervening Parīkshit's birth and accession of Mahāpadma Nanda (382 BC).

(4) The fourth group holds that the Mahābhārata War took place during 10th-9th century BC and that culture represented by the epic belonged to the iron-Painted Grey Ware Culture. War with iron weapons could not be earlier than 1200 BC as the earliest known date for iron implements indicates. The *Mahābhārata* mentions ample variety of swords, arrows, spears and other special weapons of war (*śataghṇī*). An interesting narration relates to the incident at the battlefield when the war part is over and

Kurus lost the battle and their lives. The old king Dhṛitarāshṭra and his queen, who were at the battlefield viewing the tragic losses, were approached by the Pāṇḍavas to pay obeisance to and express regrets at the great loss of their cousins in the war. While Bhīma who had killed Duryodhana approached closer to Dhṛitarāshṭra, Kṛishṇa placed an iron image of the size of Bhīma in between and the old king tightened his grip around this figure, instead of Bhīma, which was crushed to powder. That was the intensity of the feeling of Dhṛitarāshṭra who lost the entire family, more so, his pet son Duryodhana in the hands of Bhīma.[11]

Sankarnarayanan concludes that "in the 25th century BC, there had been one great war fought by the Bhāratas (Kurus). Of course it must have been fought not with iron weapons. Maybe this war had some connection with the Indus Culture and also with Ṛigvedic age."[12] Winternitz, who had studied the problem of the age of the *Ṛigveda* from almost all possible angles, fixed the date of the composition of the present *Ṛigveda* and the culture it represents at 2500 BC.[13] Again in 10th century BC, there was another great war fought by the Bhāratas themselves and this had connection with the advent of the Iron Age. Dvārakā, the headquarter of Kṛishṇa, according to the *Mahābhārata* and the Purāṇas was damaged and submerged in the sea in *c.* 1000-900 BC. This event is graphically described.[14]

ROLE OF KṚISHṆA IN *MAHĀBHĀRATA* AND ARCHAEOLOGICAL EVIDENCES FROM DVĀRAKĀ

The *Mahābhārata* cites Kṛishṇa as a king of Dvārakā attending the Draupadī-*svayaṁvara*. Kṛishṇa was born to Vāsudeva and Devakī who were kept as prisoners at Mathurā by Kaṁsa. Yādavas, tired of the onslaughts of Jarāsandha, moved from Mathurā to Kuśasthalī in Saurāshṭra under the leadership of Kṛishṇa. This was the ancestral motherland and Anārta (ancient name of Saurāshṭra), one among the provinces of the Yādava kingdom. Kṛishṇa founded a city near Kuśasthalī, which was in ruins and named it Dvārāvatī or Dvārakā. It was a highly prosperous city (*Suvraṇa-Dvārakā*). Sudden increase in sea level submerged this famed city and Mausalaparvan of the *Mahābhārata* (XVII, 8, 40-41) narrates how the city was deserted and the sea submerged it. Ancient texts refer to Dvārakā of Kṛishṇa as situated close to the sea, a *vāridurga* fort in water. A copperplate grant dated AD 574, issued by King Siṁhāditya refers to him as *Dvārakādhipati* cast in the mould of Śrī Kṛishṇa and formed the earliest epigraphic reference to the Kṛishṇa's Dvārakā.[15] The submerged structures discovered by S.R. Rao along with anchors, a seal of conch shell and the lustrous red ware pottery confirm that the Dvārakā of 1500 BC was raised at the confluence of the Gomatī river with the western sea.[16]

Kṛishṇa's effort to avoid Kurukshetra war is an exhibition of highest diplomacy of a king interested in the welfare of the country. The essence of his philosophy as contained in the *Mahābhārata* forms a separate entity – *Bhāgavadgītā*. That Kṛishṇa's life ends at the hand of a hunter called Jarāsandha clearly shows he was a human being. We would mention here an interesting identification of Kṛishṇa's depiction. E.J.H. Mackey discovered at Mohenjodaro a unique steatite tablet.[17] This depicts a young boy uprooting two trees from which emerge two human figures. Mackey compares the scene with uprooting of the trees Yamala and Arjun by the child Kṛishṇa as mentioned in the *Bhāgavata Purāṇa*.[18] V.S. Agarwala accepted this identification and held that Kṛishṇa's life story was known to the people of Indus 4000 years ago. The ancient Kurukshetra appears to be a vast territory encompassing not only the rivers Sarasvatī-Dṛiṣadvatī and Āpayā but also many lakes and hills.[19]

ARCHAEOLOGICAL SETTLEMENT AND THEIR ASSOCIATION WITH THE *MAHĀBHĀRATA*

An indologist of great repute, D.C. Sircar, who worked a great deal on the subject, declared that Mahābhārata War was a myth and not a historical event.[20] But *Devakīputra* Kṛishṇa, is a historical figure mentioned so in *Chhāndogya Upanishad*. We shall now consider the various proto-historic assemblages and find out their relationship and relevance to the great epic.

(1) Look at the extent of the Sarasvatī-Sindhū (Harappan) civilization. An area starting from Sutkagendor in Makran in the West, Alamgirpur (Meerut district in U.P.), Rakhigarhi (Haryana) and Hulas in the East, Manda (Jammu dist.), Rehmandheri (Pakistan) in the North to Daimabad in the South was regarded as the extent of this civilization. Its formative stage is now dated to 3500-3000 BC.[21] But this date is certainly not the earliest as we are yet to dig deep at several early Sarasvatī-Sindhū sites, more

specifically Mohenjodaro itself. The mature or urban phase is bracketed between 2700-2000 BC. J.P. Joshi observed: "To place the *Mahābhārata* prior to the rise of the Harappan culture is unfounded, nor can the culture depicted in the Mahābhārata be associated with the material remains of the Harappan culture or the Indus Civilization."[22] In 3000 BC, the Kuru-Pāñchāla region (Haryana) and U.P. were fully forested and no urban settlements are associated with Early Harappan or mature stages of this civilization. The real riddle of the Harappan Civilization's origin is the *raison d'etre* for its Indianness.[23] Therefore, H.D. Sankalia proclaimed that: "It now appears that the Indus Civilization had its roots in India–Sind, East Punjab, Haryana and Rajasthan".[24] To these we may now add Gujarat-Saurashṭra sites, and in the south right upto Aurangabad (Daimabad) district of Maharashtra. J.P. Joshi says that the Harappans entered Gujarat through the land routes passing through Rann and Kutch.[25] Several towns, rather urban cities of the Harappan Civilization like Lothal, Surkoṭaḍā and now Dholavira have provided enough relics that reflect the essence of urban cultural pattern as revealed in the nucleus of the *Mahābhārata*. In Gujarat, the Harappan towns are geographically closer to each other and to ancient Dvārakā, the city linked to Kṛishṇa-Vāsudeva. A new dimension to the magnificent Harappan urban architecture in stone comes from Dholavira, dist. Kutch, wherein exquisitely carved and polished pillars of hard stone were found in the forecourt and elaborate gateway entrances of the fortified city and the palatial halls within. It is, for the first time, that massive brick defences were bifacially veneered with cut stones.[26] Thus stone pillars of huge size with polished *kumbha* or drum bases, cylindrical tapering shafts and capital elements were known in Harappan cities of Gujarat. These recall the Kuru-Pāñchāla palaces described in the *Mahābhārata*.

(2) Again, the extension of late Harappan phase in western U.P. and Uttaranchal is attested to at Ambkheri (Dist. Saharanpur), Lal Qila and Saipai. The Copper Hoard-Ochre Coloured Pottery Culture of Gaṅgā-Yamunā doab has revealed an early beginning. The metal artefact evidences from Ganeswar region (Jodhpur, Sikar), dated to 2800-2200 BC clearly indicated not only a contemporaniety but a cultural linkage with the Harappans. B.K. Thapar, after a review of the latest evidences, held that the Copper Hoard Culture was in part contemporary with the Indus

Civilization.[27] Excavations at Dvārakā, followed by the recent underwater investigations established the flourishing nature of this city during late Harappan times.[28] A pre-Iron Painted Grey Ware preceded by a Late Harappan/OCP Ware Culture was encountered at Bhagawānpurā (Kurukshetra dist.), Dadheri and Sanghol (Ludhiana dist.), Katpalon and Nagar (Jalandhar dist.) and Manda (Jammu). A date range of 1500-1000 BC was given, but these dates are not absolute.

(3) A look at the distribution pattern of PGW sites reveals that portions of Punjab, north-eastern Rajasthan, northern and eastern Haryana, Western U.P. and old beds of Sarasvatī and Yamunā are integral with this ware. In the adjacent area of north Pakistan (Gandhāra), the Gandhāra-grave culture has a variety of PGW amongst its assemblage.[29] The PGW sites are known now from Tehri-Garhwal in Himalayan region as well.[30] The excavations at the type-sites like Hastināpura (1950-52) and Ahichchhatrā (1944) were small exercises and provided hardly any cultural details of their earliest inhabitants. In fact, the probes are smaller in scope and helped in no way to correlate the epic events of life as postulated and propagated by the excavators.[31] None of these Ochre Ware and PGW sites reflected any urbanized character known from the *Mahābhārata*. Therefore, Late H.D. Sankalia had commented,

> Popular mind, even of the educated Indian, cannot imagine that the authors of the Painted Grey Ware culture whom the archaeologist seem to associate with the Mahābhārata heroes, the Pāṇḍavas, Kauravas and Śrī Kṛishṇa, should have lived only 2700 years ago and not 5000 years ago? Disappointing in every way is the little knowledge that we have of this culture, whom one author dubs as the 'Ganges Civilization'. For except the wide distribution from Punjab in the north to Ujjain in the South and Bahāwalpur in the West on the North Rajasthan and Sind border to Bihar in the East, that is covering the Indo-Gangetic plains, the Vedic and Upanishadic Āryavarta and Brahmarshidēśa it has little to boast of by way of civilization.[32]

IDENTIFICATIONS AND PROBLEMS

En passant, should we not, for a moment, consider the hypothesis that the flourishing fortified towns of the Harappan Civilization such as Mohenjodāro, Harappā, Chānhudāro, Rehmānḍherī (all in the Punjab area of Pakistan), Rākhīgarhī (Haryana), Kālibangan (Rajasthan), Lothal, Surkoṭaḍā, Dholavīra and Dvārakā (Gujarat) represent the *Ur-Mahābhārata*? The solid bronze objects from Daimābād are examples of this impact. The portrait of a chariot on a terracotta seal apart, the bronze chariot yoked to a pair of prominently humped and horned bulls and driven by a robust nude male fronted by a dog kept on the tight rein in a commanding pose, are some unique evidences. Certainly such chariots are used in wars, though in this particular case, these appear to be of ritualistic importance and offered to appease a war god. So the several mature and later Harappan culture-sites may have formed the basis of the *Jayasaṁhitā Ur-Mahābhārata*.[33] The Harappan Civilization could not sustain long with its prosperous urbanity in several regions. It has lost its physical civilization, though we see its metaphysics enduring.[34] What were those compelling reasons for the fall and dissolution of such a vast empire? Probably several factors such as frequent floods, loss of the fertility of the soil, tectonic changes, general economic decline, loss of central authority and finally wars.[35]

The widespread Ochre Coloured Pottery (OCP) Culture, alongside the dispersal of copper hoards over the large territories stand witness to the panicky preparedness and the great impact of the Mahābhārata War involving the outlying *Janas* and *Janapadas*, nearly-30 according to an estimate.[36] As an aftermath of the great Kurukshetra war, the dismembered Harappans (Bharatas) reconciled to their fate, reverted to Gaṅgā-Yamunā doab and lingered for a few centuries till the Iron-PGW heralded a new era by 1000 BC. For that matter not a single OCP/PGW, iron using sites of this period provided any evidence of urban life patterns. But these early historical sites find mention frequently and the texts of the epic seem to have undergone several changes at the hands of the later compilers.

CONCLUSION

Notwithstanding what has been stated above, it must be admitted that so far the areas and sites associated with the Mahābhārata War have not yielded tangible data on the date and historicity of Kṛishṇa and Bhārata. Sanskrit scholars and linguists have not yet sifted and stratified the *Jaya*, *Bhārata* and *Mahābhārata* texts though we firmly believe that Bhārata War was a reality and not a myth. To recapitulate, the following principal sites are associated with the characters and events connected with the Mahābhārata War.

(1) Hastināpura (Dist. Meerut, U.P.), capital of Kauravas founded by Hastin and excavated by B.B.Lal on a meagre scale but lot of planned work at this site, as also at Ahichchhatra is necessary. (2) Barnāwā, ancient Vāraṇāvata, (Dist. Meerut, U.P.), where the Pāṇḍavas entered a lac house; (3) Bāghpat, ancient Vṛikaprastha (Dist. Meerut, U.P.). (4) Indrapat, ancient Indraprastha, (Purānā Qila, New Delhi), excavated by the Archaeological Survey of India; one of the five strategic villages on the Yamunā sought by the Pāṇḍavas to avert the war; (5) Panīpat, ancient Pāṇiprastha, (Haryana). (6) Bairāt, the ancient Virāṭanagar, (Dist. Jaipur, Rajasthan), excavated by K.N. Puri, Pāṇḍavas lived in exile here; (7) Mathurā, birthplace of Kṛishṇa; excavated severally but no pre-PGW levels have been met with; (8) Ancient Kuśasthali, Kṛishṇa came to Saurāshṭra via Sindh and Kutch; (9) Kurukshetra, plains where the present University of Kurukshetra is located. Thānesar (ancient Sthāṇiśvara) lies at the great divider lines between the traditional Madhyadeśa and Uttarāpatha, where excavations were undertaken to establish the antiquity and sequence of the site. Late Harappan or Bārā type material culture is seen at the Baharī and Madarsā mounds within Thānesar.[37]

None of the key-sites in the episode as detailed above have provided archaeological data datable earlier than 1500-1200 BC. No direct evidence was found so far from the excavated site of Hastināpura, Kauśāmbi, Mathurā, Kurukshetra bearing on either Kṛishṇa or *Mahābhārata*. Intensive explorations followed by multi-disciplinary problem-oriented excavation might give some clue on the epic events. As Lallanji Gopal cautioned, "Unless we are sure that we dug at the right spot we cannot overemphasize the negative argument of the absence of archaeological matter".[38]

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4

The Date of Mahābhārata War

Purāṇic and Astronomical Evidence

Mohan Gupta

PURĀṆIC EVIDENCE

According to the genealogy prepared and critically edited, the date of the Mahābhārata War can be arrived at with the help of certain references which occur in almost all Purāṇas. There are two such references – one indicating that at the time of Yudhishṭhira, the Pāṇḍava king, the constellation of the Great Bear (*Saptaṛishi*) were in Maghā (Regulus), the other indicating the time interval between King Parīkshit II and Mahāpadma Nanda, the first king of Nanda dynasty. The first reference is:

> आसन् मघासु मुनयः शासति पृथिवीं युधिष्ठिरे नृपतौ।
> पड्द्विकपंचद्वियुतः शककालस्तस्य राज्ञश्च।।*
>
> (राजतरंगिणी, I.56)

The sages were in Maghā (α Leonis) constellation at the time when King Yudhishṭhira was ruling the earth: a period of 2526 years has elapsed since the time of the reign of that king.

The same reference in these very words finds place in the *Bṛihat-saṁhitā* of Varāhamihira. In the *Bhāgavata Purāṇa*, this position has been indicated in the following words:

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*This stanza is actually a citation from the *Bṛihat-saṁhitā* (XIII. 2) of Varāhamihira which is generally and rightly taken to refer to the period that intervened between the Bhārata hero Yudhishṭhira and the commencement of the Śaka-Kāla or Śaka era. – Editor.

सप्तर्षीणां तु यौ पूर्वो दृश्येते दिवि संस्थितौ।
तयोस्तु मध्ये नक्षत्रं दृश्यते यत् समं निशि।।

तेनैव ऋषयो युक्तास्तिष्ठन्त्यब्दशतं नृणाम्।
ते त्वदीये द्विजाः काले अधुना चाश्रिता मघाः।।

(Bhāgavata XII-2, 27-28)

Among the seven sages, the two sages (stars) are seen in the eastern direction in the sky and are in a straight line with a constellation in the zodiac. They remain with that constellation of the zodiac for 100 human years. They are now, in your period, (the period of Parīkshit II) situated in Maghā.

The second important reference which finds place in almost all the Purāṇas is as under :

यावत् परीक्षितो जन्म यावन्नन्दाभिषेचनम्।
एतद् वर्षसहस्रं तु ज्ञेयं पंचशतोत्तरम्।।

There are four variation of the last part of this verse in different Purāṇas :

1. ज्ञेयं पञ्चदशोत्तरम् : 1015 :
2. ज्ञेयं पञ्चाशदुत्तरम् : 1050 :
3. ज्ञेयं पञ्चशतोत्तरम् : 1500 :
4. शतं पञ्चदशोत्तरम् : 1115 : या : 1510 :

We know that there were nine Nandas who ruled for 100 years and then came Chandragupta Maurya. The time of Chandragupta Maurya is generally accepted as 324 BC by the historians. But if one computes the time of Chandragupta on the basis of Buddha's *nirvāṇa* in 544 BC, it comes to 354 BC because it is also accepted by historians that Mahāpadma came 90 years after Buddha's *nirvāṇa* which means that if we take the time of Nandas as 100 years, Chandragupta Maurya's time would be – 544 + 190 = 354 BC. Regarding the variations of the above references of Purāṇas, scholars like P.V. Kane and Śrīdharasvāmin, have almost finally settled the issue in as much as they have proved by various arguments that the correct version is ज्ञेयं पञ्चशतोत्तरम्: 1500 : which means that the time interval between Parīkshit and Mahāpadma Nanda is 1500 years. Śrīdharasvāmin, the great commentator of *Bhāgavata*, puts this interval as 1498 years. The arguments of these scholars find support from the fact that the period in which the intervening kings ruled totals up to 1498 or 1500. According to them 22, kings of Bārhadratha dynasty ruled for 1000 years, 5 Vītihotras for 138 years and Śiśunāgas for 362 years. This makes a total of 1500. Śrīdharasvāmin takes the reign of Śiśunāgas as 360 years instead of 362 and hence the time interval according to him between Parīkshit and Mahāpadma Nanda is 1498. The detailed time intervals of these kings have been given in various Purāṇas and they can also be seen in the genealogy of post-Bhārata Magadha kings prepared by me. Starting from Chandragupta Maurya if we add 100 years for Nanda and 1500 years for the period between Mahāpadma Nanda and Parīkshit; the time of Parīkshit comes at 324 + 100 + 1500 = 1924 BC. If we take the date of Chandragupta Maurya as 354 BC and accept the interval as 1498 instead of 1500, the period of Parīkshit comes as 354 + 100 + 1498 = 1952 BC. With the help of the list of generations, we find that there are 30 kings between Parīkshit and Kshemaka, the contemporary of Mahāpadma, in the Paurava dynasty; there are 35 or 36 kings between Mārjārī, the contemporary of Parīkshit and Mahāpadma in Magadha dynasty and there are 30 kings between Bṛihadbala, the contemporary of Parīkshit and Prasenajit, the contemporary of Mahāpadma in Ikshvāku dynasty. If we take an average of 50 years per generation, this also gives a time interval of 1500 years. Thus on the basis of genealogy of the kings, the date of the Mahābhārata War is in the 20th century BC.

ASTRONOMICAL EVIDENCE

We now turn to astronomical references in the *Mahābhārata*, which provide a clear interpretation regarding the date of the Bhārata War. I have for this purpose consulted the critical edition of *Mahābhārata* published by Bhandarkar Oriental Research Institute, Pune, to eliminate any uncertainty about the text. I may also mention some precautions to be taken while interpreting correctly an epic like the *Mahābhārata* for any specific purpose. The *Mahābhārata* being an epic, the great poetry, there are references about the facts and there are also the fictions. We have to carefully segregate the facts from the fictions. Then there maybe some descriptions which are used as rhetoric to heighten the eeriness of the atmosphere which the poet intends to create. The third precaution necessary in all interpretations, whether the interpretation of law, the constitution or a literary work, is that the interpretation should be according to the scheme and the basic theme, that maybe termed as the basic structure of the text. Any interpretation which is repugnant to the basic theme and the basic structure of the text cannot be accepted as correct.

The first important reference in this connection is colloquy of Kṛishṇa and Karṇa:

> ब्रूयाः कर्ण इतो गत्वा द्रोणं शान्तनवं कृपम्।
> सौम्योऽयं वर्तते मासः सुप्रापयवसेन्धनः।।
>
> सर्वाषधिवनस्फीतः फलवानल्पमक्षिकः।
> निष्पङ्को रसवत्तोयो नात्युष्णशिशिरः सुखः।।
>
> सप्तमाच्चापि दिवसादमावस्या भविष्यति।
> संग्रामो युज्यतां तस्यां तामाहुः शक्रदेवताम्।।

(*Mbh.*, V. 140.16-18)

According to this dialogue between Karṇa and Kṛishṇa, the latter tells former on way while returning from Hastināpura after the failure of peace-talks with Duryodhana – "Thou Karṇa! Returning from here (to Hastināpura) – tell Bhīshma Pitāmāha, Droṇa and Kṛipachārya – that this is a pleasant month when sufficient fodder for the animals and fuel for the people is available, the forests are full of herbs and fruits, there are no insects or flies, the mud has dried up: the rivers are full of sweet water, neither it is cold nor warm. (This is the best period for war). The Amāvasyā will fall on the 7th day from today and that Amāvasyā will be ruled by the start of Indra. War be begun on that day." The last words in this dialogue are very important. It mentions unmistakably that Amāvasyā falls on 7th day from that day and star ruling in that Amāvasyā is the star of Indra. The star of Indra is Jyeshṭhā and with the help of the description of time, we can safely conclude that this Amāvasyā is Amāvasyā of *Sarad ṛitu* when rivers are full of water, the mud has dried up and forests are full of green herbs and fruits and neither it is hot nor cold. Thus this Amāvasyā can only be the Mārgaśīrsha Amāvasyā according to the North Indian calendar and Kārttika Amāvasyā according to the South Indian calendar, i.e. the Amāvasyā which falls 15 days after the Kārttika Pūrṇimā. According to the scheme of the months and stars also, Amāvasyā with Jyeshṭhā as its star can fall only in Mārgaśīrsha because the star on the 15th day from Mārga Amāvasyā, i.e. of Mārga Pūrṇimā will be Mārgaśīrsha which tallies with Mārgaśīrsha as its month. This gives us a clear clue about the date of the beginning of the war.

The following verses gives a clear duration of the War as 18 days –

अहानि युयुधे भीष्मो दशैव परमास्त्रवित्।
अहानि पञ्च द्रोणस्तु ररक्ष कुरुवाहिनीम्।।

अहनी युयुधे द्वे तु कर्णः परबलार्दनः।
शल्योऽर्धदिवसं चैव गदायुद्धमतः परम्।।

तस्येव दिवसस्यान्ते द्रौणिहार्दिक्य गौतमाः।
प्रसुप्तं निशि विश्वस्तं जध्नुर्यौधिष्ठिरं बलम्।।

(Ādiparvan, I.2, 26-28)

The great warrior Bhīshma fought for 10 days; the general of Kuru army, Droṇa defended it for 5 days; Karṇa, known for his might to smash enemy forces, fought for 2 days; Śalya (the Army Chief of the last day of the Kaurava forces) for half a day and in the afternoon of the same day there was the mace duel between Bhīma and Duryodhana (in which Duryodhana was killed by Bhīma). At the close of that very day Aśvatthāman, Gautama and Hārdikya (Kṛitavarman) massacred the forces of Yudhishṭhira while they were sleeping during the night. This duration of 18 days is of great help to us for the purpose of our computation because this mentions that Bhīshma fell on the 10th day of the War. If we compute from Mārgaśīrsha Amāvasyā, the 10th day would fall on Mārgaśīrsha Śukla 9. This along with another most important reference in the *Mahābhārata*, i.e. the passing away of Bhīshma solves our problem. This reference is as follows:

परिवृत्तोहि भगवान् सहस्रांशुर्दिवाकरः।
अष्टपंचाशतं रात्र्यः शयानस्याथ मे गताः।
शरेषु निशिताग्रेषु यथा वर्षशतं तथा।।

माधोऽयं समनुप्राप्तो मासः सौम्यः युधिष्ठिर।
त्रिभागशेषः पक्षोऽयं शुक्लो भवितुमर्हति।।

(XIII.153. 26-28)

The thousand-rayed Lord Sun has turned (northward) now. Fifty-eight nights have passed while I have been lying on these sharp arrows and they looked like a hundred years. Yudhishṭhira, pleasant month of Māgha has come, only ¾th of it remains and this fortnight is the bright fortnight.

This description gives us the following details:

1. The sun turned northward on the day Bhīshma died. In fact, he was waiting for this Uttarāyaṇa to leave this world, as according to the scriptures, anybody dying during the Uttarāyaṇa goes to heaven.
2. 58 nights had elapsed from the day he fell in the battlefield.
3. The date on that day was Māgha Śukla 8, the word Māgha and Śukla have been mentioned in so many words while Tribhāgaśesha clearly indicates that it was half fortnight which means the 8th *tithi* (15/2 = 7.50). Incidentally, Māghaśukla Ashṭamī is celebrated as Bhīshma Ashṭamī traditionally and indicated as such in the *pañchāṅgas* of the country from times immemorial. This gives strength to our interpretation of the त्रिभागशेष: as Māghaśukla Ashṭamī.

Because the sun turned northward that day, we know from the primary astronomy that the sun entered *Sāyana* Makara on that day, i.e. 10th Rāśi of the zodiac. One Rāśi equals to 30°. The sun crossed 9 Rāśis on that day which means it was at 9 x 30 = 270° on that day. This gives the *Sāyana* position of the sun.

But nothing has been mentioned about the star on that day. The stars of the day, as we know, give us position of the moon on a particular day and these positions are *Nirayana*, i.e. Sidereal longitudes of the moon. Our object is to find out the star of the moon on the day of the passing away of Bhīshma. We know that the war began on Jyeshṭhā star. We also know that Bhīshma fought for 10 days and later on lay 58 nights on arrows which means that there was an interval of 68 days or 67 nights (9 + 58) between the beginning of the War and the passing away of Bhīshma. This shows that from Jyeshṭhā 68th star was ruling on that day. By straight computation it comes as Rohiṇī (2 rounds of zodiac 27 x 2 = 54 + 14 = 68 i.e. 14th star from Jyeshṭhā, i.e. Rohiṇī). Incidentally, there is a reference in the *Mahābhārata*, though interpolated, which mentions that it was the Rohiṇī star and Māghaśukla Ashṭamī on the day Bhīshma passed away. This occurs in Śāntiparvan, Chapter 87 of Gita Press (Gorakhpur) Edition of the *Mahābhārata* and as in the footnotes of Critical Edition.

शुक्लपक्षस्य चाष्टम्यां
माघमासस्य पार्थिव
प्राजापत्ये च नक्षत्रे
मध्यं प्राप्ते दिवाकरे

(Bhīshma passed away) on the 8th *tithi* of bright fortnight of Māgha ruled by the stars of Prajāpati (i.e. Rohiṇī) at the time when the Sun was in the mid-Heaven.

With these two basic and most important references, our search for the two string pillars on which the theory of the date of the Mahābhārata War can be constructed becomes complete. The rest is research, i.e. the interpretation and derivation from the above two important data and support from collateral references.

From the above discussion, we get the following data –

1. The War started on Mārga Amāvasyā, Jyeshṭhā star.
2. Bhīshma fell on 10th day, i.e. on Mārga Śukla 9.
3. Bhīshma passed away on Mārga Śukla 8. Rohiṇī star- 58 nights intervened between the fall of warrior Bhīshma and his passing away.
4. The sun turned northward on the day Bhīshma passed away which means the *Sāyana* (tropical) longitude of the sun on that day was 270° from the vernal equinox of that year.
5. The *Saptaṛishi* or the Great Bear were in Maghā (Regulus or α Leonis).

METHODOLOGY

In astronomy, there is an element known as *ayanāṁsa* or precision of equinoxes. There are two zodiacs or belt of stars and constellations in the sky – one in fixed zodiac or *Nirayana* zodiac followed in the Indian system of astronomy which starts from a fixed point in sky called Aśvinī (Mesha 0) and it has been identified as a point in sky which is 180° away from the bright star Chitrā (spica); the other is moving zodiac (*Sāyana*) which starts from the vernal equinox point of a year which is styled as Aries 0 and which shifts backwards every year at the rate of 0°-0'-50" (mean). This is followed by Western astrologers. It has got an accelerating motion and the current rate of precision is 50.3" per year. During the Mahābhārata times, it must have been less. The accumulated difference between the fixed (*Nirayana*) zodiac and the moving (*Sāyana*) zodiac of a year is called the amount of precision or *ayanāṁsa*. This means if the *ayanāṁsa* of a year can be found out, its time interval can be worked out from a given year on the basis of the rate of *ayanāṁsa*. In the present case, we have *Sāyana* longitude of the Sun and the *Nirayana* longitude of the Moon. Because the lunar day or *tithi* has also been given which is based on the *Nirayana* longitudinal difference of the Sun and the Moon, it is possible to work out the *Nirayana* longitude of the Sun. From both *Sāyana* and *Nirayana* longitudes of the Sun, the *ayanāṁsa* can be worked out by simple subtraction.

The *tithi*s or lunar days depend on elongation of Moon from the Sun, i.e. their difference in longitudes. When they are 12° apart, Pratipadā or the first *tithi* ends; when they are 24° apart, Dvitīyā or second lunar day or *tithi* ends. Thus every *tithi* is 12° extent in terms of angular difference between the Sun and the Moon and when they are 180° apart, it is Pūrṇimā. Similarly, a star (*nakshatra*) is 13°-20' extent from 0° of Aśvinī or Mesha 0° and they are 27 in number. Rohiṇī is the fourth star. The astronomical conversion of the date Māgha Śukla 8 Rohiṇī is –

a. The Moon is between 40° to 53°-20′.
b. The difference between Sun and Moon is between 84° (12° x 7) and 96° (12° x 8).
c. The *Saptaṛishi* in Maghā means that the solstitial collure is in Maghā or the *Nirayana* longitude of the Sun on the point of *Dakshiṇāyana* (summer solstice) in the Maghā star, i.e. between 120° and 133°-20' (Maghā is 10th star in Zodiac i.e. 13°-20' x 10).

Following equations can be formed-

Moon – Sun = 84° to 96°.
Moon = 40° to 53°-20′
Sun = (1) Moon–84° or (2) Moon–96°
Moon is between 40° and 53°-20′
Or (adding 360° for the sake of convenience)
Between 400° and 413°-20′

There are four options for the Sun –

Sun = 400° – 84° = 316° (1)
= 400° – 96° = 304° (2)
= (413°-20′) – 84° = 329°-20′ (3)

$$= (413^\circ\text{-}20') - 96^\circ = 317^\circ\text{-}20' \ (4)$$

But from (c) above we know that the Sun is between 120° and 133°–20′ (Maghā) on the day of summer solstice (*Dakshiṇāyaṇa*) which means it will be between (120° + 180°) = 300° to 313°-20′ on the day of winter solstice (Uttarāyāṇa). Hence out of the above four equations, only (2) i.e. 304°. can be accepted, the others are out of the limits of 313°-20′. This gives us the *Nirayana* longitude of the Sun on that day as 304°.

The *nirayana* longitude of the Sun = 304°
The *sāyana* longitude of the Sun = 270°
Hence *ayanāṁsa* = 304°–270° = 34°
The time interval from the 0 *ayanāṁsa* year is

$$\frac{34}{0^\circ\text{-}0'\text{-}50''} = 2448 \text{ years}$$

The astronomical tradition gives us AD 499 as the year or 0° *ayanāṁsa*. Hence, 2448 – 499 = 1949 BC is tentatively the year of Bhīshma Nirvāṇa.

Having fixed this tentative date for the Bhārata War, the historians' task is almost over because precise date is not important for him. But the interpretation of the *Mahābhārata* for the date is not complete nor the task of an astro-scientist until other references regarding position of planets, comets and stars are also looked into and a consistent conclusion is drawn which fits all important references. Because the stars of the important days have been given along with position of planets, it should be possible to arrive at an exact date and day when the War began and also the succeeding events till the passing away of the great warrior Bhīshma.

We have known from above that the War began on Mārga Amāvasyā (as per Kṛishṇādi or North Indian *pañchāṅgas*) or Kārttika Amāvasyā (as per Shuklādi or South Indian *pañchāṅgas*), i.e. on the Amāvasyā which falls after Kārttika Pūrṇimā. In the following discussion, all references of lunar days and months will be with reference to North Indian *pañchāṅga*. The greatest confusion so far while fixing the position of planets, has been regarding the identity of these planets. In the *Mahābhārata*, the general allegation is that there are two or more contradictory or astronomically impossible references regarding the position of the planets; hence any consistent interpretation is impossible. But if we go through the text a little carefully, there is no such confusion nor contradiction. In fact, in the *Mahābhārata*, particularly in Bhīshmaparvan, there are references to comets and not to planets. If we compare these names of comets, which resemble the names of planets, with the great astronomical treatise of Varāhamihira, viz. *Bṛihat-saṁhitā*, there will be no difficulty in identifying them. Varāha in Ketuchāra Adhyāya of *Bṛihat-saṁhitā* has given a thousand types of comets. They are –

(a) Sons of Sun (रविजाः) = 25 types of comets
(b) Sons of Fire (अग्निपुत्राः) = 25 types of comets
(c) Sons of Death (यमपुत्राः) = 25 types of comets
(d) Sons of Earth (धरातनयाः) = 22 types of comets
(e) Sons of Moon (सोमपुत्राः) = 3 types of comets
(f) Brahmā's Son (ब्रह्मसुत) = 1 type of comet
(g) Sons of Venus (शुक्रपुत्राः) = 84 types of comets
(h) Sons of Saturn (शनिपुत्राः) = 60 types of comets
(i) Sons of Jupiter (गुरुपुत्राः) = 65 types of comets
(j) Sons of Mercury (बुधपुत्राः) = 50 types of comets
(k) Sons of Mars (भौमपुत्राः) = 60 types of comets
(l) Sons of Rāhu (राहुपुत्राः) = 33 etc.

The above list includes धरातनय, रविज and सोमपुत्र which also mean respectively the Mars, the Saturn and the Mercury in astrological parlour. Other terms like श्वेतो ग्रह (white planet) or अंगारक also create confusion being indicative of Venus or Mars whereas actually they are not, as per the context. But the basic characteristics of comets, which have also been styled as *grahas* or generally *mahāgrahas* is that they are all fiery – प्रज्वलितौ, ज्वलनार्कवर्णः पावकप्रभः, etc. are the epithets used for them and from them we can distinguish comets from planets in spite of similarity in names. Varāha has given this symptom of comet –

अहुताशाऽनलरूपं यस्मिंस्तत्केतुरूपमेवोक्तम्

(BS, Ketuchāra - verse 3)

Not being fire, if it looks like fire, it must be a Ketu or comet

Another caution while interpreting these references is that, at time these comets, sons of Saturn, Jupiter, or Venus have been referred to not as their sons but simply as बृहस्पतिः (Jupiter), शनैश्चरः (Saturn) or शुक्रः (Venus) which can be recognized by context and the meaning becomes clear by लक्षणा वृति (Indicative power) – one of the three powers of words – अभिधा, लक्षणा and व्यंजना (narrative, indicative and suggestive powers) when due to astronomical improbability, there is मुख्यार्थबाधा, obstruction to the principal meaning. Thus –

> संवत्सरस्थायिनौ ग्रहौ प्रज्वलितावुभौ,
> विशाखायाः समीपस्थौ बृहस्पतिशनैश्चरौ
>
> (*Mbh.*, Bhīshma, 3.25)

Both the fiery comets – Bṛihaspati and Śanaishchara which stay in a star for a year, are now near the Viśākhā star.

Because Bṛihaspati, the planet, does not stay in a star for a year, the principal meaning (मुख्यार्थ) is obstructed and hence by लक्षणा, the indicative meaning has to be accepted which makes it a reference to a comet and not to a planet. Besides, these *grahas* have been qualified by the epithet प्रज्वलितौ (fiery, burning) which confirms the meaning. I have observed that all these references to comets occur in Bhīshmaparvan, Chapter III, the object of which is not so much to indicate the true sky position of these times as to heighten the eeriness of the atmosphere of war and destruction because these comets in the public perception are harbingers of death and destruction – the particular stars indicating particular warring country – as per astronomical Siddhānta. Thus (1) श्वेतो ग्रहः (*Mbh.*, 6.3.11) (BS, Ketuchāra, 4/39) destroys one fourth of population त्रिभागशेषाः प्रजाः कुरुते (2) Kapālaketu (*Mbh.*, 6.3.12) (BS, 11/55, 11/31) in Pushya destroys the king of Magadha; श्यामो ग्रहः (*Mbh.*, 6.3.15) (BS, 11/38.58) causes destruction of the sovereign in Jyeshṭhā, etc. Similarly, four other comets have been mentioned which can be identified easily and which justify the statement –

> निःसरन्तो व्यदृश्यन्त सूर्यात् सप्त महाग्रहाः।
>
> (8.26-24)

The seven great comets appeared as if coming out of the Sun.

With this background, we can easily determine the position of various planets at the time of Bhārata War.

POSITION OF VARIOUS PLANETS

Sun and Moon

As we already know, the War began on Mārga Amāvasyā, Jyeshṭhā star as anticipated and probably planned by Lord Kṛishṇa. Hence, the Moon is in Jyeshṭhā (226–40 to 240). The Sun being with Moon, is also in Jyeshṭhā or Vṛischika Rāśi.

Mars

There is a clear reference to Mars which is not comet –

> कृत्वा चाङ्गरको वक्रं ज्येष्ठायां मधुसूदन
> अनुराधां प्रार्थयते मैत्रं संगमयन्निव।
>
> (Udyoga, 143.9)

The Mars transiting retrogade in Jyeshṭhā (Antares or α Scorpi) applies for Anurādhā, the star of Mitra (a form of Sun) as if providing a company for her. The other reference मघाष्वाङ्गारको वक्रः is in Bhīshmaparvan, Chap. III which, as I have said, is full of references to comets and not to planets and the context also makes it clear.

Mercury and Venus

Both are in Jyeshṭhā as per

> भृगुसूनु धरासूनुः शशिजेन समन्वितौ
>
> (Śalya, 11.18)

The son of Bhṛigu (Śukra or Venus).
The son of Earth (Maṅgala or Mars).
and the son of Moon (Budha or Mercury) were together.

> शुक्रः प्रौष्ठपदे पूर्वे समारुह्य विरोचते
> उत्तरे तु परिक्रम्य सहितः समदीक्षते।
>
> (Bhīshma, 3.135)

This cannot be a reference to Venus but to a comet known as son of Śukra referred to as Śukra alone in this verse because Venus is maximum 60° apart from the Sun and because is in Vṛischika, Venus cannot go beyond Kanyā or Makara. Praushthapada or Uttarā and Pūrvā Bhadrapadā are in Mīna. This verse is also in Bhīshmaparvan, Chapter III, which I have mentioned, contains all references to comets.

Jupiter

Karṇaparvan (94, 51) gives clear indicatıon –

> बृहस्पतिः सम्परिवार्य रोहिणीम्
> बभूव चन्द्रार्कसमो विशांपते।

O King ! Jupiter having accosted Rohiṇī (Aldebaran or α Tauri) has become like Sun and Moon (who have the prerogative of accosting Rohiṇī usually).

As discussed earlier, निशाखाया समीपस्थौ बृहस्पति शनैश्चरौ (Bhīshma, 3.27) is clearly a reference to comets, the epithets being ग्रहौ प्रज्वलिताबुभौ, both fiery *grahas*.

Saturn (Śani)

There are two clear references –

> (i) प्राजापत्यं हि नक्षत्रं ग्रहस्तीक्ष्णो महाद्युतिः
> शनैश्चरः पीडयति पीडयन् प्राणिनोऽधिकम्।
>
> (Udyoga, 143.8)

The great bright and sharp planet Śanaischara (Saturn) is afflicting the Prajāpati – star (i.e. Rohiṇī), thus indicating great suffering to the people.

> (ii) रोहिणीं पीडयत्येषः स्थितो राजन् शनैश्चरः।
>
> (Bhīshma, 2.32)

O King! This Śanaishchara (Saturn) is afflicting Rohiṇī.

Thus the Saturn is clearly either in Rohiṇī star or near it, thereby afflicting the star by its aspect.

Rāhu

Rāhu and Ketu are north and south nodes of Moon. There is a clear reference in Bhīshmaparvan that there was eclipse on the day of War and also on the Pūrṇimā (Full moon day) preceding it –

> चन्द्रसूर्यावुभौ ग्रस्तौ एकाह्ना हि त्रयोदशीम्
> चन्द्रसूर्यावुभौग्रस्तौ एकमासीं त्रयोदशीम्
> अपर्वणि ग्रहेणैतौ प्रजासंशयमिष्यतः।
>
> (Bhīshma, 3.32)

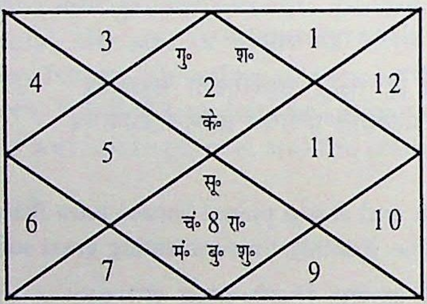
अलक्ष्यः प्रभया हीनः पौर्णमासीं च कीर्तिकीम्
चन्द्रोभूदग्निवर्णश्च पद्मवर्णे नभस्तले।

(Bhīshma, 3.32)

The Sun and the Moon both have been eclipsed within a month on a Trayodaśī (13th lunar day). This unusual phenomenon of eclipses on a day other than the New Moon or Full Moon suggests destruction of the people... The Kārttika Pūrṇimā looked lustreless; the Moon became pale in the lotus-coloured sky.

Because of eclipses, the Rāhu or Ketu should be with the Sun and the Moon i.e. in Jyeshṭhā or nearby. With these derivations the map of heavens on the day of the beginning of the War is like this –

Mārga Amāvasyā
Kurukshetra
Sunset time



Astrologically, because all planets are divided in two houses, it indicates a clear war situation.

Our next task is to find out the precise year and precise day of the War so that when we make actual calculation of planets and stars for the day, we can compare how far the planetary position tallies with the position arrived at above. For that I had to wander with the help of calculator and computers a few years before and after 1949 BC – our tentative date arrived earlier. I struck at 1952 BC as the year when most of the conditions referred to in the *Mahābhārata* and discussed above satisfy. It was after months and months of constant thinking and calculations that I could fix up the precise date and calculate planetary positions and corresponding Julian year and dates. The results of my calculations are as follows:

		BC	Kali Year	Before Śaka	Julian Year
i	Beginning of Kali	3102(18/2) -(1150)	01 +(1150)	3179 -(1150)	1612 +(1150)
ii	The year of Mahābhārata War	1952	1151	2029	2762
iii	The date of Mahābhārata War	17th Oct. Thursday	Mārga 30 Guruvārā	Mārga Amā	17th Oct.
iv	Number of days from beginning of Kali (*ahargaṇa*)		420280 days		

I have expressed this date in the following words-

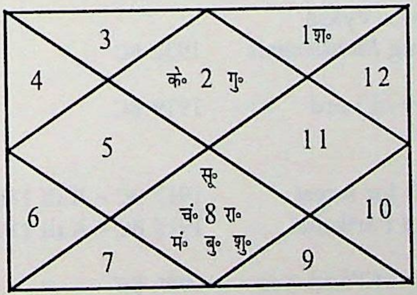
अमायां मार्गमासस्य एकपञ्चशिवे कलौ नक्षत्रे शक्रदैवत्ये आसीत् भारत भारतम्।

v. Julian days since the beginning, upto the date of Mahābhārata War 1008745

vi. Planetary position : (as on 17th October, 1952 BC)

Graha	*Mean Position*	*True Position*	*Star*
Sun	235°-35′-18″	7^s-24°-37′-59″	Jyeshṭhā
Moon	240°-54′-02″	7^s-25°-57′-2″	Jyeshṭhā
Mars	262°-30′-30″	7^s-29°-57′-30″	Jyeshṭhā
Jupiter	42°-17′-37″	1^s-17°-35′-37″	Rohiṇī
Saturn	24°-11′-52″	0^s-13°-20′-52″	Bharanī
Rāhu	237°-28′-18″	7^s-27°-28′-18″	Jyeshṭhā
Ketu	57°-28′-18″	1^s-27°-28′-18″	Mṛigha

Sunset
Kurukshetra
17-10-1952 BC



Ayanāṁsa = 30°-49′-45″(Lahiri)
Annual Rate of Precision 49.42″

vii. The War ended - Pausha Kṛishṇa 2 Pushya star
3rd Nov., Sunday
viii. Bhīshma died - Magha Śukla 8 Rohiṇī star
23rd December, Monday
Ahargaṇa = 420 347
True Sun = 300°-56′-23″ (*Nirayana*), 270° *Sāyana*
The Moon = 40°-54′-28″ (*Nirayana*)
Rohiṇī Star

Eighth lunar day (Ashṭamī) in the morning.
It was ninth (Navami) at the time of Mid-day.

All coordinates precisely tally with the references in the Great Epic, as discussed earlier. Other important events:

1.	Birth of Lord Kṛishṇa	23rd June, 2045 BC, Wednesday Kali 1058, before Śaka 2122 Bhādra Kṛishṇa 8, Rohiṇī
2.	Birth of Yudhishṭhira	2nd August, 2045 BC 2122 before Śaka
3.	Beginning of Yudhishṭhira Era	2099 before Śaka (2526-427)
4.	Banishment of Pāṇḍavas	9th May, 1965 BC – Āshāḍha Kṛishṇa 8 Kali 1138
5.	Return of Pāṇḍavas from seclusion	16th May, 1952 BC – Āshāḍha Kṛishṇa 8 – Kali 1151 (Period of banishment 4755 days)
6.	Birth of Parīkshit	1951 BC
7.	Death of Dhṛitarāshṭra Maharshi Veda Vyāsa started writing *Mahābhārata*	1932 BC 1932 BC
8.	Passing away of Lord Kṛishṇa	1919 BC
9.	Pāṇḍavas left for forest Coronation of Parīkshit	1917 BC – Kali 1186 1917 BC – Kali 1186
10.	Passing away of Pāṇḍavas Death of Parīkshit and Coronation of Janamejaya	1916 BC 1857 BC – Kali 1246

To conclude, 17th of October 1952 BC, Thursday, Mārga Kṛishṇa Amāvasyā, Kali 1151 or Before Śaka 2029, Julian year 2762 is the date when Mahābhārata War began. In my detailed treatise on the subject, I have successfully refuted all theories which fix this date as 3138 BC, or 2448 BC, or 1400 BC, or 3102 BC. Neither the planetary position as mentioned in the *Mahābhārata* nor the phenomena of Uttarāyaṇa on the date of passing away of Bhīshma do obtain on respective days on these dates.

5

The Year of Kaurava-Pāṇḍava War

P.V. Holay

INTRODUCTION

The *Mahābhārata* is a religious poetry composed in three stages. Initially it consisted of only 8,800 verses composed by Kṛishṇa-dvaipāyana Vyāsa. The book was called as *Jaya*. Subsequently, in the second stage it was modified and enlarged with a total number of 24,000 verses by Vaiśampāyana. It was named as *Bhārata*. At the third stage, the book was modified and composed by Sauti, son of a charioteer Lomaharshana, with total number of about 1,00,000 verses. When a novel or poetry is written on historical events, its author does not change the particulars about their dates, though the events appear to be described in a fantastic manner. The particulars about the date of events are noted in *Mahābhārata* in *tithis* and *nakshatra* system prevalent in those days. However, we get three sets of planetary positions in the text; the earliest one describes the position of planets in the sky during the War period.

DIARY AND YEAR OF THE WAR

When we search the time of the Bhārata War[1], we have to find out (i) the diary of various important events before and during the War and (ii) the year of the Bhārata War. In the present paper, the aim is to fix the year of the Bhārata War. The diary of the Bhārata War is only an ancillary subject. I am therefore giving the diary of Bhārata War without going into the details of its proof. Such details are given by me in a Marathi book on the said subject.

SUMMARY OF THE DIARY

Kṛishṇa went to Hastināpura for peace talks in the month of

Kārttika. The peace talks failed. When Kṛishṇa was on his route to the town Upaplavya to visit Pāṇḍavas, Karṇa met him. Though Kṛishṇa told Karṇa that they should start the War on Kārttika Amāvasyā (new-moon day), the War did not start on that day. The Karttika month was followed by an *Adhikamāsa* (intercalary month). At the end of this month, on the day of *amāvasyā*, there was a solar eclipse at the dawn of the day. Thereafter the War began on the same day. On the tenth day after the commencement of the War, Bhīshmāchārya was fatally wounded. Due to compelling circumstances for both the sides, the War was stopped for 12 days. Thereafter the War resumed and continued for 8 days. It came to an end with the death of Duryodhana.

NAKSHATRA SYSTEM

For fixing the year of the Bhārata War, it is necessary to know the *nakshatra* system in the then prevalent calendar. There was no practice of naming the days as Sunday, Monday, Tuesday, etc. during the time of the Bhārata War. The days were named according to the position of the moon in the *nakshatras*. The path of the moon in the sky (ecliptic) was divided into 28 equal divisions (vide Annexure 2) marked by small group of stars or asterisms called *nakshatras*. At present, we count only 27 *nakshatras*. If we arrange these *nakshatras* according to their names in their respective divisions, one division between Dhanishthā and Śatabhishaj remains vacant. It was presumed that moon travels about one *nakshatra* division in a day. It takes 27 days to complete its journey in the *nakshatra* circle. It completed the journey of three circular rounds covering 81 *nakshatra* at the rate of one *nakshatra* per day and required additional day and *nakshatra* at the end of third round. This 28th *nakshatra* was called Abhijit. I have named it Purābhijit (please see Annex. 2). Positions of the planets were marked according to the name of the *nakshatra* divisions they occupied.

TITHIS

The *tithi* or the lunar day is a peculiarity of Hindu calendar. Moon takes about 29.5 days to cover a period from one new-moon to another, which is called a lunation (lunar-month). Hindus divide a lunation in 30 equal parts of about 23 hrs., 36 mins. each. For computing *tithis*, the angular distance between the sun and the moon is measured after the event of new-moon (अमावस्या). If the angle is between 0° to 12° the day is called 1st *tithi* and if the angle is 12° to 24°, it is called 2nd *tithi* and so on. This practice is followed after the introduction of Siddhānta system of astronomy probably by Āryabhaṭa I.

In all other countries as well as in the science of astronomy, lunar dates are computed as 'age of the moon' in number of days after the beginning of the lunation. Thirty days and 29 days are counted in alternate months as lunar dates, because its average length is 29.5 days. This calendar system was followed during the period of Bhārata War by the then Hindus.

NAMES OF THE LUNAR MONTHS

माघोयं समनुप्राप्तो मासः सौम्यो युधिष्ठिर।
त्रिभागशेषःपक्षोयं शुक्लो भवितुमर्हति।। Anu, 167,28।।
निवृत्तमात्रे त्वयने उत्तरे वै दिवाकरे।
समावेशयदात्मानमात्मन्येव समाहितः।। Śānti, 47,3।।

Many scholars search the year of Bhārata War on the basis of these verses. They give more importance to the word Māghamāsa. The lunar month in which full moon appears in the vicinity of the star Regulus (मघा) is called Māghamāsa. Other months are given their names in a similar way. In those days the practice of naming the months was different from that which exists today. The fact that two intercalary months occur in five years and five days, was given more importance while computing the years of sacrifices. An artificial year, with one day more in length, i.e. 366.25 days (instead of 365.25 days) was computed to adjust the intercalary months. As a result, if the first year in the set of fifteen years[2] was counted to start on the day of vernal equinox (वसंत संपात, i.e. 21st of March), the sixteenth year was expected to start on the 5th day of the next month, i.e. April. This period comprised six intercalary months. One fortnight (पक्ष) of the last lunar month was therefore dropped in every set of 15 years. It was therefore necessary to compute *Amānta māsa* (months ending in new-moon day) in the first set of fifteen years and *Paurṇimānta māsa* (months ending in full-moon day) in the second set of fifteen years. The calendar therefore included practice of omission of *paksha* (पक्षय).[3] The names of the lunar month therefore lost their relevance with the name of the *nakshatras*. The fifteen-year luni-solar *yuga* confused Duryodhana at the time of Gograhaṇa war. It also bewilders modern scholars. They think that the combination of the *tithi* S.8 with Rohiṇī *nakshatra* pertains only to Phālguna month. The author therefore gives separate annexure (No. 8) to show that once they also formed part of Māgha month as computed during the Bhārata War.

In this context the following verse assumes importance –

निवृत्तमात्रे त्वयने उत्तरे वै दिवाकरे।
समावेशयदात्मानमात्मन्येव समाहितः।
शुक्लपक्षस्य चाष्टम्यां माघमासस्य पार्थिव।
प्रजापत्ये च नक्षत्रे मध्यं प्राप्ते दिवाकरे।। Śānti, 47AA,3

Bhīshmācharyā died on (i) bright-eighth *tithi* (S.8) of the month of Māgha in the mid-noon of (ii) Rohiṇī (*Prajāpti*) day on the day of (iii) winter solstice. These three are sufficiently important particulars for our astronomical calculations. When the year of war was searched with this data by the method of precession of equinox, it is found as 3341 ± 240 years (see Annexure 3). This is the only verse in the *Mahābhārata*, which in clear words tells us the *tithi* and *nakshatra* of the day Bhīshmāchārya died. Other verses are ambiguous. As of rule we have to rely on unambiguous sentences and reject others.

SOME SPECIFIC INSTANCES SHOWING HOW SCHOLARS WERE MISLED

It is desirable to give here specific instances demonstrating how the name of the month Māgha has misled some scholars to come to wrong conclusions. Following are the names of the scholars with their respective findings about the year of the war –

(i) K.L. Daftari-1196 BC[4], (ii) V.G. Aiyer-1193 BC[5], (iii) D.N. Khedwal-1963 BC[6], (iv) R.P. Poddar-1500 BC.[7] All these scholars have based their findings on two events (a) Bhīshmāchārya died on the day of winter solstice and (b) on Māgha Śukla 8th. They presumed that the system of naming the lunar months was according to present *Siddhānata Jyotisha* system. (v) K.V. Abhyankar[8] presumed that Bhīshmāchārya died on Māgha Kṛishṇa 5th, where the month was named according to present system of *Siddhānata Jyotisha*. He further tried to find out the maximum difference in number of days between winter solstice and the aforesaid date of expiry of Bhīshmāchārya in last few years. The difference was found to be 69 days. He presumed that this is the period of precession of winter solstice from the date of the war. He therefore concluded that the year of the war was 3000 BC. His calculations were based on two wrong presumptions – (a) the date of death of Bhīshmāchārya was 12 days subsequent to the date mentioned in the *Mahābhārata*, i.e. Māgha K.5, (b) present *Siddhānata* system of naming the lunar months was followed in the relevant period. According to Abhyankar, the *nakshatra* of the day of the demise of Bhīshmāchārya was in Viśākhā *nakshatra* which is nowhere stated in the text. P.C. Sengupta (1947) finds that Bhīshmāchārya died on Māgha K. 7 of 2449 BC which means the *nakshatra* of that day was Ānurādhā, the *tithi* and *nakshatra* of the day of death of Bhīshmāchārya stated by K.D. Abhyankar and P.C. Sengupta are nowhere stated in *Mahābhārata*. They are hypothetical. This is contrary to the very premises on the basis of which we started our investigation. If a researcher is allowed to change the particulars of dates of important events, he will have a liberty to draw any conclusion of his choice.

P.C. SENGUPTA'S KALIYUGA

P.C. Sengupta searched the antiquity of the concept of Kaliyuga in Hindi calendar. He relied on the *Vedāṅga Jyotisha* and some Purāṇas to know the lunar day at the beginning of *Yugas*, and found that it was the full-moon day of Māgha month coinciding with winter solstice. The antiquity of such day as calculated by him is 2454 BC. Thereafter on the basis of some probabilities and surmises and without any verifiable material evidence, he came to the conclusion that Kaliyuga of the *Mahābhārata* was 2454 BC. In fact, he found the antiquity of *Ṛik*-text of *Vedāṅga Jyotisha.*[9] The *Yuga* he searched did not bear the adjacent *Kali* in the relevant texts. They are small luni-solar cycles comprising 5 years or 19 years. It appears that he was not aware that even before the *Vedāṅga Jyotisha*, during the

Śatapatha Brāhmaṇa (3000 ± 240 BC) Hindus used a luni-solar cycle of 5 years and 5 days for their calendars. Sengupta speculated that 5 years after his so called Kaliyuga, Bhārata War started in 2449 BC.[10]

Sengupta made wrong translation of, Bhīshmaparvan, ch. 2 verse 23 (अलक्ष्यः प्रभया हीनं ...) and concluded that the verse describes Mārgaśīrsha Paurṇimā. He further stated that the war began on that day. In fact, it is a description of Kārttika Paurṇimā which had occurred five days before the day of peace talks.

PLANETARY POSITIONS

The planetary positions given in chapter 3 of Bhīshmaparvan should be rejected. When we read chapter 3 of Bhīshmaparvan, we feel that Maharshi Vyāsa has given exaggerated and frightening description of the then atmosphere to the King Dhṛitarāshṭra to dissuade him from engaging in war with Pāṇḍavas. It appears that he has surpassed the well-known writer of science fiction, H.G. Wells, in this respect. A few years ago, comet Shoemaker exploded in the sky of the planet Jupiter. Several pieces of the said comet revolved around Jupiter forming a series of satellites. A similar description of the sky and atmosphere is given by Maharshi Vyāsa to Dhṛitarāshṭra. If we read the planetary positions given in the said chapter along with planetary positions given in other chapters we feel that 19 planets were simultaneously seen in the sky in those days (see Annex. 4). Venus was seen at a time at two places. Mercury and Saturn at three places each, Mars was seen at four places. In addition to these planets, 4 planets by name Śyāma, Śveta, Tivra and Tikshṇa were seen in the sky (Annex. 4). Heavy meteors showered the earth, cosmic dust was suspended everywhere in the earth's atmosphere creating darkness in daytime. Rivers started flowing in the opposite direction due to opposite gravitational pull from the satellites. It appears that genetic science had advanced so much in those days that mares gave birth to calves, and bitches gave birth to foxes (Annex. 5).

The particulars given by Sañjaya in respect of *tithis*, *nakshatras* and planetary positions in the sky are reliable. In the *Mahābhārata* it is mentioned that Sañjaya went from the battlefield of Kurukshetra to Hastināpura twice – (i) on the tenth day of the war when Bhīshmāchārya was fatally wounded, he reached

Hastināpura in short time and Dhṛitarāshṭra asked him eagerly the particulars of the event of the war (Droṇaparvan, Ch. 1, verse 7); (ii) After Śalya's death, the following events occurred – Sañjaya was arrested by the Pāṇḍavas at the battlefield. Dhṛishṭadyumna and Sātyaki decided to kill him. He was released at the intervention of Vyāsa. He removed his armour and started walking towards Hastināpura. After walking a distance of about one *krośa* (3 km), he saw Duryodhana completely covered with bloodstains. He gave a message through Sañjaya to his father Dhṛitarāshṭra that he was alive and was hiding in a tank (verses 37 to 39 in Śalya [Ch. 29]). I have therefore used his notes about the event marked by *tithis*, *nakshatras* and planetary positions.

MEANING OF THE WORDS पीडनं, संपरिवारणं

The words पीडनं and संपरिवारणं occur in the verses Udyoga 143.8; Bhīshma 32.2 and Karṇa 94.51 for example रोहिणी पीडयेन्नेष स्थितो राजन्शनैश्चरः. Here the author of the verses describes the position of the star रोहिणी (Aldebaran) in the sky in poetic manner stating that when Saturn rises in the eastern horizon (156°) day by day, it brings pressure on Aldebaran (रोहिणी 0°) to set in the west. Similar description about Jupiter with respect to Rohiṇī is given in Karṇa 94.51. This meaning is consistent with the Karṇa 37.4 निस्सरंतो व्यदृश्यंत सूर्यात् सप्त महाग्रहाः. P.C. Sengupta and K. Srinivasa Raghavan have wrongly interpreted these verses by holding that Jupiter and Saturn were close to Rohiṇī during the Bhārata War.

Two Rohiṇīs

Aldebaran i.e. alpha Tauri (in वृषभ) is called Kanishthā Rohiṇī or simply Rohiṇī while Antares, i.e. alpha scorpii (in वृश्चिक) is called Jyeshṭhā Rohiṇī or simply Jeshṭhā (Vana 230, 8-11).

ASSEMBLY OF EIGHT PLANETS AND URANUS

Though we have decided to make our calculations using planetary positions other than those given in chapter 3 Bhīshmaparvan, we have to face one more difficulty. The *Mahābhārata* gives close assembly of seven bright planets excluding the Sun. Such description is given at two places. In those assemblies, Rāhu (lunar ascending node) and Ketu (lunar descending node) are not included because they are not luminous.

दीप्यमानाश्च संपेतुः दिवि सप्त महाग्रहाः ।। Bhīshma, 17.2 ।।
निस्सरन्तो व्यदृश्यंत सूर्यात् सप्त महाग्रहाः ।। Karṇa, 37.4 ।।

The Sun and the Moon were considered as planets in the ancient astronomy. Even if we presume Moon as a planet, we have to search in all seven planets receding from the Sun (i.e. exclusive of the Sun). The eighth planet must be Uranus. It is visible to an observer with normal eyesight even without a telescope. Its magnitude is 5.6. The magnitudes of Aruṇdhatī (Alkor) and Revatī (Zeeta pisium) are 5.4 and 5.24 respectively. They were identified by sages during the Vedic period. Stars have practically no motion within themselves. Planets move on the background of the stars. Uranus moves very slowly on the background of the stars. It takes 84 years to complete its circular journey through stars. European astronomers could not therefore identify it separately as a planet till AD 1690. Vedic priests were required to observe the path of the planet, i.e. the chain of the *nakshatras* daily for the purpose of sacrifices. They must have therefore identified the planet Uranus. Its probable name might be Śuchi (Vana 3.17). Foreign invaders destroyed ancient Hindu literature. We could not even read our Brāhmī script nor have we deciphered Indus-Sarasvati (Harappan) script. We have retained only that part of our knowledge which we were required to use daily. Uranus was forgotten because of its faintness and slow motion. When it is shown that the civilization during the period of the Bhārata War saw eighth planet, it is for others to show that it was some other planet than Uranus.

THE STARTING POINT OF OUR SEARCH

The starting point of our search is the day of the beginning of Kaliyuga as found out by K.D. Abhyankar. In 1991, he found that on 7th Feb., 3104 BC seven planets including the Sun and the Moon had closely assembled in a very narrow range before the day-dawned. (Initial research was made by Sampat Ayangar. However, Abhyankar gave accurate position of the planets). The day they had found was 26 lunar months before the traditionally recognized day of beginning of Kaliyuga. The position of planets as found by Abhyankar are given in Annexure 6. (Abhyankar and Ballabh published their articles in this respect in 1996. Subsequently they have modified their views and provided additional probable date of the beginning of the planetary yugas. (See Abhyankar and Ballabh 2000). Those dates are discussed in this paper. This is the verifiable evidence comparable with the internal statement in text, i.e. *Mahābhārata*. As of rule it has to be given priority. Other evidence, *viz*. the Varāhmihira's *Bṛihat-saṁhitā* or the geneaological lists are external evidences and contradict each other. Therefore they are not discussed in this paper.

HISTORICAL CONCEPT OF THE BEGINNING OF YUGAS

KALIYUGA IN *MAHĀBHĀRATA*

The following verse in Ādiparvan is important for us when we think about the Kaliyuga. Sauti says:

> अंतरे चैव सम्प्राप्ते कलिद्वापारयोरभूत्।
> समंतपंचके युद्धं कुरूपाण्डवसेनयोः।। Ādi, 2.13।।

This verse gives the sequence of the events of war and popular concept of the beginning of Kaliyuga. War was fought at the end of Dvāpara, thereafter Kaliyuga began.

PLANETARY YUGAS

The concept of planetary yuga started not for astronomical calculations but for (i) the promulgation of calendars in the name of some king for yearly *yajñas* or for (ii) retaining good or bad omen in recollection of coincidence of a remarkable planetary position in the sky with some serious good or bad historical event. It is in the subsequent stage that such historical record of planetary assemblies was used for astronomical calculations. Now we have computer to trace the days of beginnings of such yugas. G.M. Ballabh prepared a computer programme to verify the positions of five visible planets, the Sun and the Moon in a period from 3500 BC to AD 3000 with an object to find out whether there was any ideal day of beginning of planetary yuga.[11] He found that there was none. However, he found four important days before 1000 BC on which there were close planetary assemblies (CPA) at four cardinal points of tropical years. For the convenience of narration, I have named them according to the English names of the months of their occurrence. Ballabh also gave the maximum angular span which they covered on these days. The dates of cardinal days are given in brackets.

	Name	*Date (BC)*	*Angle*	*Cardinal Point*
1.	April	16-4-3243	17°	Vernal equinox (16-4)
2.	Feb.	7-2-3104	25°	Winter solstice (15-1)
3.	June	16-6-1296	22°	Summer solstice (0-7)
4.	Oct.	12-10-1198	20°	Autumnal eq. (2-10)

(Please note that the interval between a cardinal day and the respective CPA is less than one lunar month).

Out of these four CPAs, first two pertain to the period of the *Śatapatha Brāhmaṇa*. S.B. Dikshit found its date as 3000 BC which is generally accepted. (S.B. Dikshit, Eng. edn., Vol. 1, p. 129). The *Śatapatha Brāhmaṇa* gives us the social and intellectual development of the then generation. The first (i.e. the April) CPA governed the then fifteen-year luni-solar calendar. Though it was the maximum ideal CPA as a base for planetary astronomy, it was not used for that purpose. We guess that it is the date of the end of Dvāpara Yuga. The second (i.e., the Feb.) CPA occurred at the time of Lord Kṛishṇa's death. It was therefore remembered as a sign of bad omen, i.e. the beginning of Kaliyuga. It is explained above that the war took place in a period 3341 ± 240 years BC. The third and the fourth CPAs are beyond the limits of this period (see Annexure 3). Secondly, they are not near the day of winter solstice, when Bhīshmāchārya as well as Kṛishṇa died. These dates cannot be considered as the beginning of the Mahābhārata Kaliyuga. Therefore we have to conclude, that 7-2-3104 BC is the date of the beginning of Mahābhārata Kaliyuga.

DEATH OF LORD KṚISHṆA

The relevant texts which give information about the death of Kṛishṇa are (i) Mausalaparvan of the *Mahābhārata* and (ii) the *Bhāgavata*.

Mausalaparvan

For the purpose of our search, the following verses from Mausalaparvan of the *Mahābhārata* are relevant. I am giving their translation by Manmath Dutt.

Vaiśampāyana addresses King Janamejaya –

Oh king! There was great unjust tumult between the descendants of Vṛishṇis (वृष्णि) after thirty-six years from the event of Bhārata War. They killed each other by the strokes of wooden pastles (Mausala, I.13).

When Lord Kṛishṇa saw this type of adverse effect of time and when he saw that new-moon (अमावस्या) occurred on 13th day from full-moon, he addressed all the citizens, "Bravo! Rāhu (राहु) has turned again the 14th *tithi* into new-moon day, the astronomical position (of planets) is the same as it was during the Great war. It is indicating destruction" || 19 ||.

When Kṛishṇa (केशिहन्ता) thought in this direction, he came to the conclusion, that, it is the thirty-sixth year from the end of the great war || 20 ||.

The rulers of Dvārakā city declared by the orders of Lord Kṛishṇa that "the best of the men Yādavas, should move for pilgrimage towards sea" (that is to Prabhāsa shrine प्रभासतीर्थ) || 24 ||.

Lord Kṛishṇa then went to Prabhāsa *tīrtha*. There also Yādavas fought amidst themselves. One day a tribal hunter shot an arrow which by mistake struck the heel of Kṛishṇa's leg.

Vaiśampāyana says:

Thereafter O king! The creator of the universe, dazzling bright, master of Yogīs, Lord of men went to his final dwelling by illuminating the earth and the heaven. (Mausala, Ch. 4.26.)

Shrīmad Bhāgavata

I could not find a clear statement about the beginning of Kaliyuga than the one given in *Shrīmad Bhāgavata*. (12.2.29)

> विष्णोर्भगवतो भानुः कृष्णख्योऽसौ दिवं गतः
> तदाविशत् कलिर्लोकं पापे यद्रमते जनः।।

When Bhagavān Vishṇu as bright as the Sun and well known by the name Kṛishṇa, went to luminous world (heaven) Kaliyuga began. People started indulging in sins.

FROM THE ASSEMBLY OF EIGHT PLANETS TO THE SEVEN PLANETS

Solar eclipse occurs in the same *nakshatra* only after a lapse of 18 years and 11 days. In the intervening period it occurs in different *nakshatras*. Therefore, the third occurrence of solar eclipse in a particular *nakshatra* should be expected at an interval of 36 years and 22 days from the first eclipse. If we read the aforementioned statement of Lord Kṛishṇa along with the natural rule, we have to conclude that he shifted from Dvārakā to Prabhāsa-shrine after a lapse of 36 years. The next question arises "for what period he lived in Prabhāsa-shrine?" I have proved hereinbefore that there was an assembly of eight planets in the sky during Bhārata War. This assembly included planets Saturn and Jupiter. The interval between two consequtive conjunction of Saturn and Jupiter is 19.8 years. The day of the beginning of Kaliyuga, i.e. CPA Feb. 3104 BC is close to the day of winter solstice but the war started somewhere in the month of Kārttika and Mārgiśirsha, i.e. about 4 months earlier in the respective year. We must therefore say that Kaliyuga began 19 x 2 years plus 4 months, after the war. Nineteen solar years comprises 235 lunar months; therefore from the date of the war to the day of the beginning of Kaliyuga 235 x 2 + 4 = 474 lunar months must have passed. Every lunar month consists of 29.53088 days. With this data if we calculate and find out the date of the new-moon, after the failure of peace talks, we get it as 13th Oct. 3143 BC. Our conclusion would be supported by strong proof if we get an assembly of eight planets in the sky on this day. If we find assembly of eight planets on any new-moon day similar types of assemblies are expected to occur in next two new-moon days (see Annex. 7).

CONCLUSIVE PROOF ABOUT THE DATE OF THE WAR

I am giving six planetary positions in the sky at important events with sky maps in Annexure 7. The events are as follows:

(i) The new-moon day which followed the failure of the peace-talks:

सप्तमाच्चापि दिवसादमावास्या भविष्यति।
संग्रामं युज्यतां तस्यां तामाहुः शक्रदेवताम्।। Udyoga, Ch. 142.18।।

(ii) On Māgha day before the war:
मघाविषयगः सोमस्तद्दिनं प्रत्यपद्यत।
दीप्यमानाश्च संपेतुर्दिवि सप्त महाग्रहाः।। Bhīshma, Ch. 17. 2।।

(iii) The day of the beginning of the war, with eclipse at sunrise:
चंद्रसूर्यावुभौ ग्रस्तावेकमासीं त्रयोदशीम्
अपर्वणि ग्रहेणैतौ प्रजाः संक्षपयिष्यतः।। Bhīshma, Ch. 3.32 & 33।।

(iv) The planetary position at the dawn of the day of death of Karṇa:
निश्चरन्तो व्यदृश्यन्त सूर्यात्सप्त महाग्रहाः।। Karṇa, Ch. 37.94।।

(v) The western horizon at the dusk after the death of Karṇa:
सोमस्य पुत्रोऽभ्युदियाय तिर्यक्।। Karṇa, Ch. 94.49।।

(vi) On the day of the meeting of the Karṇa with Kṛishṇa after the failure of peace talks:
ततो निर्याय नगरात् प्रययौ पुरुषोत्तमः।
मंत्रयामास च तदा कर्णेन सुचिरं सह।। Udyoga, Ch. 137.29।।.

This is sufficient proof to conclude that the war began on 13th day of Nov. 3143 BC.

K. Srinivasa Raghavan made efforts to search the date of Bhārata War a few years near the beginning of the Kaliyuga. His colleague G.S. Sampath Iyengar found out the date of beginning of astronomical Kaliyuga. However, Raghavan did not take into consideration (i) the position of the eighth planet 'Uranus' and (ii) presumed that the planets Ṣaturn and Jupiter were near Rohiṇī (Aldebaran). He, therefore wrongly concluded that the date of Bhārata War was 22 November 3067 BC.

JULIAN AND GREGORIAN CALENDARS

The dates of the six events given in Annexure 7 are according to Julian Calendar. J. Bently, Jas Burges, Srinivasa Raghavan and K.D. Abhyankar have in their books and papers used dates according to Julian calendar. The author of this paper has therefore used the said calendar. A common man is conversant with Gregorian calendar. Hence, it is necessary to write here about the development of European calendar.

In 46 BC, Julius Caesar on the advice of his astronomer Socigenus designed a calendar consisting of the solar year of 365.25 days. In the year AD 325, Counsel of Nicaea made efforts to link the calendar with tropical years, for example the day of vernal equinox should always be 21st of March. Even then, due to the absence of the knowledge about exact length of tropical year (365.242199 days) the dates in the calendar slipped. In 1582, Pope Gregory corrected the calendar by adding some days and by changing the rules of readjusting it at the end of centuries. As a result Europeans use Julian year of 365.25 days for events before 46 BC and the Gregorian year of 365.2422 days thereafter for fixing historical dates.

DEATH OF BHĪSHMĀCHĀRYA

The Bhārata War occurred a few days before 3142 BC. We therefore use (3142 – 45) = 3097 Julian year in our calculations. The tropical year is shorter than Julian year by (365.25 – 365.2422) = 0.0078 days. This difference totals to 24 days in 3097 years. Therefore, the date of winter-solstice at the death of Bhīshmāchārya was (22nd Dec. + 24 days i.e.) 15th January. Yudhishṭhira left Hastināpura on 15th Jan., 3142 BC to reach Bhīshmāchārya at Kurukshetra. He died on 18th Jan., 3142 BC. The crow-fly distance between Hastināpura to Kurukshetra is 140 km.

TRADITIONAL *YUGĀBDA*

According to Julian calendar, *Kali Yugābda* (युगाब्द) began at midnight on 17th Feb., 3102 BC. Therefore, the Bhārata War started 40 years and 98 days before the beginning of *Yugābda* and Bhīshmāchārya died 40 years and 30 days before *Yugābda*.

At present it is believed that Kaliyuga began on Chaitra Ś.1, 17th Feb., 3102 BC midnight in Julian calendar. The astronomical day of the beginning of Kaliyuga is 7th Feb., 3104 BC as found by K.D. Abhyankar. The question therefore arises that, why should there be a difference of 26 months in these two dates? As I think, the probable reason is that, after the departure of Lord Kṛishṇa to heaven, the Pāṇḍavas went forever to the Himalayas. Before proceeding to the Himalayas they performed the ceremony of coronation of Parīkshit, the grandson of Arjuna. His grandmother Subhadrā was instructed to supervise his administration.

अभिषिच्य स्वराज्ये च राजानं च परीक्षितम्।
दुःखार्तश्चाब्रवीद् राजा सुभद्रां पांडवाग्रजः।।
एष पुत्रस्य पुत्रस्ते कुरुराजो भविष्यति।
यदूनां परिशेषश्च वज्रो राजा कृतश्च ह।।महाप्रस्थानिक 1.7-8।।

NOTES AND REFERENCES

1. Nearly 125 dates ranging from 5561 to about 900 BC have been suggested by scholars for this important event. See Shriram Sathe, *Search for the year of the Bhārata War*.
2. For a detailed explanation, see P.V. Holay, *Vedic Astronomy*, 1994, pp. 107-08.
3. Śāntiparvan, 301, 46 & Dakshāyaṇīya Darśapaurṇima sacrifices in *Śatapatha Br.*, 1-2-10.
4. Daftari, Vol. 3, p. 50.
5. Shriram Sathe, p. 71.
6. Shriram Sathe, p. 72.
7. *Ibid.*
8. *ABORI*, XXV, p. 133.
9. Dr. P.C. Sengupta, "Bhārata Battle Tradition", Art 15, *JRABS*, 1938, pp. 397-402.
10. *Ibid.*, p. 339.
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ANNEXURE 1
The Diary of the War Events

Order of events	*Tithi*	*Nakshatra*	Description of important events	Time interval between events
			Month of Kārttika	
a	Ś.12	Revatī	Krishṇa proceeds to Hastināpura	
b	K.5	Pushya	Peace talks (शांतिसभा) fails	
c	K.8	Pūr. Phalg	Meetings between Karṇa-Krishṇa	
d	29	Jyeshṭhā	Kārttika new-moon	
			Intercalary month (अधिकमास)	
e	Ś.6	Purābhijit	Extra *nakshatra*	
f	Ś.13	Kṛittikā	Lunar eclipse	
g	K.13	Pushya	Balarāma visits Pāṇḍavas and proceeds on pilgrimage. Rukmi visits Pāṇḍavas, then proceeds to Kurukshetra	
h	K.12	Anurādhā	Kṛitavarmān joins Kauravas with army	
i	K.13	Jyeshṭhā	Both sides performed lohābhihāra-ritual	
j	K.14	Mūla	Ulūka gives message of war to Pāṇḍavas	42 days
k	30	Pūr. Āshd.	Solar eclipse 1st Gītopadesha war begins	
			Month of Mārgiśirsha	
l	Ś.9	Bharaṇī	Bhīshma is fatally wounded war stops for 12 days	12 days
m	Ś.11	Rohiṇī	Kṛishṇa tells philosophical *Gītā*.	
n	K.7	Svāti	Droṇāchārya field marshal, war resumes	
o	K.9	Anurādhā	Death of Abhimanyu	
p	K.10	Jyeshṭhā	Death of Jayadratha and Ghaṭotkacha at night, war begins at lunar rise	
q	K.11	Mūla	Death of Droṇāchārya	
r	K.13	Utt. Āsad.	Karṇa dies after two days	58 days
s	29	Śravaṇa Amāvasyā	Śalya dies, Duryodhana dies in the presence of Balarāma	
			Month of Pausha	
t	30	Purābhijit	Extra *nakshatra*	
			Month of Māgha	
u	Ś.5	Aśvinī	Winter solstice (उत्तरायणारम्भ) Yudhishṭhira proceeds to Kurukshetra	
v	Ś.8	Rohiṇī	Bhīshma breathes his last	

ANNEXURE 2

Name of *Nakshatra*	28 Equal Divisions	Limits of *Nakshatra*	Place of Conjunction Division Star (180)
1 Aśvinī	321.429	(315 to 327.857)	324.20
2 Bharaṇī	334.286	(327.857 to 340.7143)	338.433
3 Kṛittikā	347.143	(340.7143 to 353.4286)	350.233
4 Rohiṇī	00.00	(353.4286 to 6.4286)	00.33
5 Mṛiga	12.857	(6.4286 to 19.2857)	13.95
6 Ārdrā	25.714	(19.2857 to 32.1428)	29.333
7 Punarvasu	38.571	(32.1428 to 45.00)	43.45
8 Pushya	51.429	(45.0 to 57.857)	54.214
9 Āśleshā	61.286	(57.857 to 70.7143)	64.45
10 Maghā	77.143	(70.7143 to 83.5714)	80.066
11 Pūrvā Phālgunī	90.00	(83.5714 to 96.4285)	91.006
12 Uttara Phālgunī	102.857	(96.4285 to 109.2857)	101.683
13 Hasta	115.714	(109.2857 to 122.1428)	120.0821
14 Chitrā	128.571	(122.1428 to 135)	134.066
15 Nishṭhya	141.429	Shifted to Svāti (Arcturus)	—
16 Viśākhā	154.286	(147.857 to 160.7143)	155.316
17 Anurādhā	167.147	(160.7143 to 173.5714)	172.80
18 Jyeshṭhā	180.00	(173.5714 to 186.4285)	180.00
19 Mūla	192.857	(186.4285 to 199.2857)	194.816
20 Pūrvā Āshāḍhā	205.714	(199.2857 to 212.1428)	206.533
21 Uttara Āshāḍha	218.571	(212.1428 to 225.0)	216.466
22 Śravaṇa	231.429	(225.0 to 237.857)	232.016
23 Dhanishṭhā	244.286	(237.857 to 250.7143)	247.616
24 Purābhjit Ep. Pegasus	257.143	(250.7143 to 263.5714)	216.81
25 Śatabhi Shaj	270.00	(263.5714 to 276.4286)	271.816
26 Pūrvā Bhadrapadā	282.857	(276.4286 to 289.2857)	283.716
27 Uttara Bhadrapadā	295.714	(289.2857 to 302.1428)	299.40
28 Revatī	308.571	(302.1428 to 315)	310.116

ANNEXURE 3

Year of Bhārata War by Precession of Solstices

For calculating the relative positions of planets one may use ephemeris of any year as a base. I have used the *Indian Ephemeris* of L.D.S. Pillai of the year 1995 as basis. Let us first find out the position of the Sun on the day of death of Bhīshma. The celestial longitudes of the Sun and the Moon were the same on the day of new-moon, that preceded the said day. Let us therefore find out the position of the moon seven days before the death of Bhīshma (because seven days had passed in between)

Rohiṇī (Aldebaran) = 69°4′335″ = 69.72689° ———St.(1)

Moon covers 12° in every *tithi* and 13.176° in a day. In seven days it would cover 13.176 x 7 = 92.235°. Let us find out where it was seven days before. (The answer maybe negative, hence we use 360° of the earlier round).

The position of the new-moon

= (360°+ 69.72689°– 92.235°) = 337.492°

This was also the position of the Sun on the new-moon day. Let us now find out the daily motion of the Sun. The direction of the major axis of the eliptical path of the earth has not changed much in last 5000 years. Therefore, the average relative angular velocity of the Sun between 332° to 340° is practically unchanged. It was 1.0045767° per day in AD 1995.

Let us find out what angular distance it travelled towards east in seven days.

1.0045767° x 7 = 7.0320°

Therefore, position of the Sun on the day of Bhīshma's death was

=337.491°+ 7.032° = 344.532 —— St (2)*

Precession: In the basic year (AD 1995) point of winter solstice was at 270°. Therefore, the total precession was 344.523°– 270°= 74.523°.

The time required for this precession:

=74.532 x 71.6 years = 5336 years.

Our basic year is AD 1995. Therefore the year of the war is 5336 -1995 = AD 3341. One division of *nakshatra* = 13.333. The point of winter solstice takes about 960 years to cover this distance. Our answer has therefore + or – limits.

* The year of the war is therefore 3341 ± 240 years. That is from 3101 BC to 3581 BC.**

*This *tithi* is Ashṭamī (8th) because:

Sun-Moon = St.(1) – St.(2)

= 360 – 344.523 + 69.7 = 85.177

Bhīshma, died at mid-moon, therefore we have to add quarter *tithi* 85.177° + 3° = 88.177° (limits of 8th *tithi* are 84° to 96°)

**In 3341 BC winter solstice used to occur on 18th Jan. In 3143 BC it was occuring on 15th of Jan. This difference occurred due to precession of solstice.

ANNEXURE 4

Planet	*Nakshatras*	Reference	Verses
Mercury	Viśākhā	(भीष्म 3.31)	बुधः संपततेऽभीक्ष्ण जनयन्सुमहद् भयं
	Viśākhā-Mūla	(शल्य 11.17)	भृगुसूनुधरापुत्रौं शशिजेन समन्वितौ
	Near the Sun	(कर्ण 94.49)	सोमस्य पुत्रोऽभ्युदियाय तिर्यक
Venus	Prashṭhupadā	(भीष्म 3.15)	शुक्रः प्रोष्ठपदे पूर्वे समारुह्य विरोचते
	Viśākhā-Mūla	(शल्य 11.17)	भृगुसूनुधरापुत्रौ शशिजेन समन्वितौ
Mars	Maghā	(भीष्म 3.14)	मघास्वंगारको वक्रः श्रवणेच बृहस्पितिः
	Abhijit to Śrav	(भीष्म 3.18)	ब्रह्मराशिं समावृत्य लोहितांगो व्यवस्थितः
	Anurādhā to Jyeshṭhā	(उद्योग 143.9)	कृत्वा चांगारको वक्रः ज्येष्ठायां मधुसूदन
	Viśākhā to Mūla	(शल्य 11.17)	भृगुसूनुधरापुत्रौं शशिजेन समन्वितौ
Jupiter	Viśākhā	(भीष्म 3.27)	विशाखायाः समीपस्थौ बृहस्पतिशनिश्चरौ
	Śravaṇā	(भीष्म 3.14)	मधास्वंगारको वक्रः श्रवणे च बृहस्पतिः
	Covering Rohiṇī	(कर्ण 94.51)	बृहस्पतिः संपरिवार्य रोहिणीम्
Saturn	Viśākhā	(भीष्म 3.27)	विशाखायाः समीपस्थौ ब्हस्पति शनिश्चरौ
	Pūrvā-Phālguṇī	(भीष्म 3.14)	भगं नक्षत्रमाक्रम्य सूर्यपुत्रेण पीड्यते
	Oppressing	(उद्योग 143.8)	प्राजापत्यं नक्षत्रं...शनैश्चरः पीडयति . . .
	Rohiṇī	(भीष्म 2.32)	रोहिणीं पीडयन्नेष स्थितो राजन्शनैचरः
All Planets	Maghā to Jyeshṭhā	(भीष्म 17.2)	मघाविषयगः सोमस्तद् दिनं प्रत्यपद्यत दीप्यमानश्च
	Near the Sun	(कर्ण 37.4)	निस्संरतो व्यदृश्यंत सूर्यात् सप्त महाग्रहाः

Besides these, four planets, viz. Śyāma, Śveta, Tīvra and Tikshṇa.

ANNEXURE 5

Fantastic and impossible events narrated in Chapter 3 of Bhīshmaparvan

(English translation of the verses is from Manmath Nath Datta (1896)-Recter-Keshub Academy; H.C. Dās, Elysium Press 65/2 Bendon Street, Calcutta)

गोवत्सं वडवां सूते श्वा सृगाालं महीपते।
कुक्कुरान् करभाश्चैव शुकाश्चाशुभवादिनः।। 6।।

O king, the mare gives birth to calves, the bitch to jackals, the elephants to dogs, cocks, antelopes and parrots are all sending forth inauspicious notes. || 6 ||

विश्ववाताश्च वात्युग्रा रजो नाप्युपशाम्यति।
अभीक्ष्णं कम्पते भूमिरर्क राहुरूपैति च।। 11।।

Strong winds are fearfully blowing and the dust unceasingly flying. The earth is often quaking and Rāhu advances towards the Sun. || 11 ||

धूमकेतुर्महाघोरः पुष्यं चाक्रम्य तिष्ठति।
सेनयोरशिवं घोरं करिष्यति महाग्रहः।। 13।।

A fearful comet is rising, and is distressing the constellation Pushya. This great planet will cause terrible harm to both the armies || 13 ||

दिक्षु प्रज्वलितास्याश्च व्याहरन्ति मृगद्विजाः।।
अत्याहितं दर्शयन्तो वेदयन्ति महद् भयम्।। 24।।

Animals and birds on all sides utter harsh cries with their mouths burning like fire. This forebodes fearful events || 24 ||

प्रतिस्रोतो महानद्यः सरितः शोणितोदकाः।
फेनायमानाः कूपाश्च कूर्दन्ति वृषभा इव।। 34।।

The great rivers flow in opposite directions
The waters of rivers have turned into blood. || 34 ||

पतन्त्युल्काः सनिर्घाताः शक्राशनिसमप्रभाः।
अद्य चैव निशां व्युष्ठामयनं समवाप्स्यथ।। 35।।

Meteors as effulgent as Indra's thunder fall on earth with loud sound. When this night passes away, a great danger will fall on you. | | 35 | |

विनिःसृत्य महोल्काभिस्तिमिरं सर्वतोदिशम् ।
अन्योन्यमुपतिष्ठद्भिस्तत्र चोक्तं महार्षिभिः | | 36 | |

Sages with lighted torches in their hands will meet great difficulty to meet together, for thick gloom will cover the space | | 36 | |

महाभूता भूमिकम्पे चत्वारः सागराः पृथक् ।
वेलामुद्वर्तयन्तीव क्षोभयन्तो वसुन्धराम् | | 38 | |

Earth trembles, and in consequence the four oceans, having exceedingly swelled, seem ready to overflow their banks in order to afflict the earth | | 38 | |

वृक्षानुन्मथ्य वान्त्युग्रा वाताः शर्करकर्षिणः ।
आभग्नाः सुमहावातैरशनीभिः समाहताः | | 39 | |
वृक्षाः पतन्ति चैत्याश्च ग्रामेषु नगरेषु च | | 40 | |

Fearful winds with stones are blowing, crushing all the trees | | 39 | | Being crushed by the high wind and struck by lightening, sacred and common trees in villages and towns are falling down | | 40 | |

ध्यायन्तः प्रकिरन्तश्च व्याला वेपथुसंयुताः ।
दीनास्तुरंगमाः सर्वे वारणः सलिलाश्रयाः | | 45 | |

Tiger appears to run hither and thither throwing off urine and excreta. The horses are all melancholy, the elephants are going into water. | | 45 | |

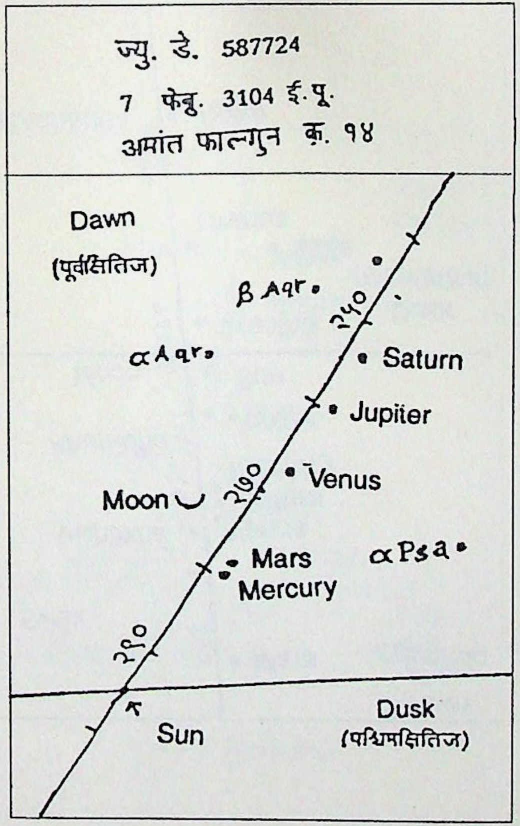
ANNEXURE 6

The planetary position at the beginning of Kaliyuga by K.D. Abhyankar

Amānta Phālguna K. 14

J.D. 587724 = 7 Feb. 3104 B.C.J. 1-58 A.M.

Planet	Sāyana β	Sāyana λ	Nirayana AD 285	Obs'ion Time	Sun-to Planet Dist.
Sun	0.0	294.5	342.5	Dawn	0.00
Moon	+5.0	273.5	321.5	Dawn	-21.0
Mercury	+2.0	278.3	326.3	Dawn	-16.2
Venus	-0.5	267.7	315.7	Dawn	-26.8
Mars	-1.1	277.8	325.8	Dawn	-16.7
Jupiter	-0.6	260.2	308.2	Dawn	-34.3
Saturn	-0.1	253.1	301.1	Dawn	-41.4

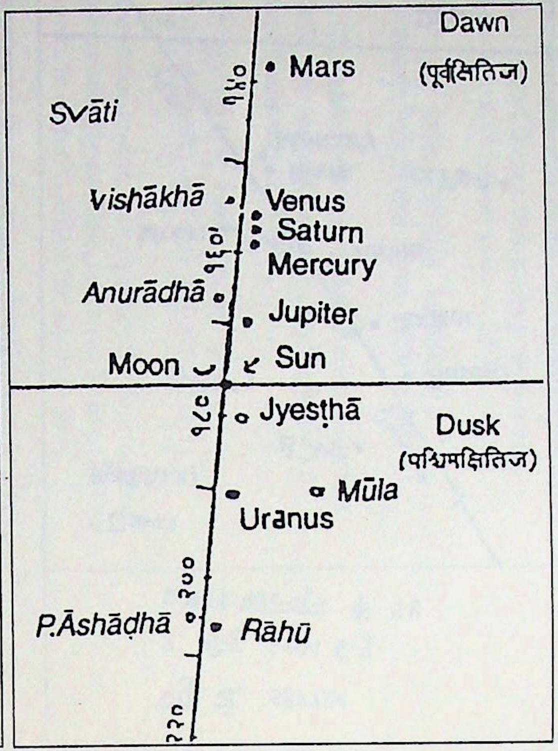

ज्यु. डे. 587724
7 फेब्रु. 3104 ई.पू.
अमांत फाल्गुन कृ. १४
Dawn
(पूर्वक्षितिज)
β Aqr.
२५०
α Aqr.
Saturn
Jupiter
Moon
२७०
Venus
Mars
Mercury
α Psa
२९०
Sun
Dusk
(पश्चिमक्षितिज)

ANNEXURE 7A

Kārttika new-moon after failure of peace talks

सप्तमाच्चापि दिवसादमावास्या भविष्यति।
संग्रामं योजयेत्र तां ह्याहुः शक्रदेवताम्।। (उद्योग 142.18)

J.D. 573728 = 13 Oct. 3143 B.C.J.					
Planet	Sāyana	Nirayana Rohiṇī 0°	Nirayana AD 285	Obs'ion Time	Sun-to Planet Dist.
Sun	246.253	176.526	225.503	Dawn	0.00
Moon	243.993	174.266	220.243	Dawn	-2.26
Mercury	227.975	158.248	204.225	Dawn	-18.278
Venus	225.264	155.537	201.514	Dawn	-20.989
Mars	209.71	139.983	185.96	Dawn	-36.543
Jupiter	240.007	170.280	216.257	Dawn	-6.246
Saturn	226.392	156.665	202.642	Dawn	-19.86
Uranus	262.488	192.761	238.738	Dusk	+16.235
Rāhu	277.256	207.529	253.506	Dusk	+31.003


Dawn
(पूर्वक्षितिज)
Mars
१५०
Svāti
Vishākhā
Venus
Saturn
Mercury
१६०
Anurādhā
Jupiter
Moon
Sun
१८०
Jyeṣṭhā
Dusk
(पश्चिमक्षितिज)
Mūla
Uranus
२००
P.Āshāḍhā
Rāhū
२२०

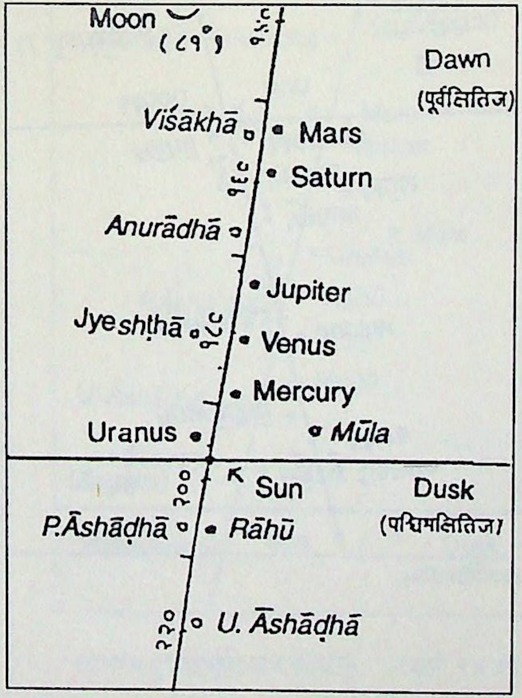
ANNEXURE 7B

Maghā-day before war
Intercalary Mārgaśirsha K. 5th

मघाविषयगः सोमस्तद्दिनं प्रत्यपद्यत।
दीप्यमानाश्च संपेतुर्दिवि सप्त महाग्रहाः (भीष्म 17.2)

J.D. 573748 = 3 Nov. 3143 B.C.J.

Planet	Sāyana	Nirayana Rohiṇī 0°	Nirayana AD 285	Obs'ion Time	Sun-to Planet Dist.
Sun	266.709	196.982	242.959	Dawn	0.00
Moon	151.524	81.797	127.774	Dawn	-115.185
Mercury	257.927	188.200	234.177	Dawn	-8.782
Venus	250.471	180.744	226.721	Dawn	-16.238
Mars	223.323	153.596	199.573	Dawn	-43.386
Jupiter	244.474	174.747	220.724	Dawn	-22.235
Saturn	228.508	158.781	204.758	Dawn	-38.201
Uranus	263.745	194.018	239.995	Dawn	- 2.964
Rāhu	276.196	206.469	252.446	Dusk	+ 9.487


Moon
(८१°)
१६८
Dawn
(पूर्वक्षितिज)
Viśākhā
Mars
१७८
Saturn
Anurādhā
Jupiter
Jyeshṭhā
१८८
Venus
Mercury
Uranus
Mūla
२००
Sun
Dusk
P.Āshāḍhā
Rāhū
(पश्चिमक्षितिज)
२२०
U. Āshāḍhā

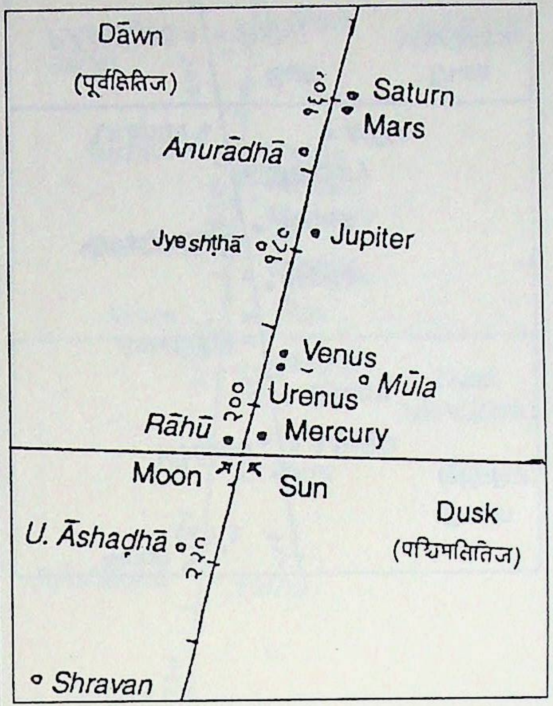
ANNEXURE 7C

Beginning of war solar eclipse at 6.51 a.m.

चन्द्रसूर्यावुभौ ग्रस्तावेकमासे त्रयोदशीम् ।
अपर्वणि ग्रहावेतो प्रजाः संक्षपयिष्यतः ।। (भीष्म 3.28)

J.D. 573758 = 13 Nov. 3143 B.C.J.

Planet	Sāyana	Nirayana Rohiṇī 0°	Nirayana AD 285	Obs'ion Time	Sun-to Planet Dist.
Sun	276.977	207.25	253.227	Dawn	0.00
Moon	276.977	207.25	253.227	Dawn	0.00
Mercury	272.777	203.05	249.027	Dawn	-4.2
Venus	263.11	193.383	239.36	Dawn	-13.867
Mars	230.21	160.483	206.46	Dawn	-46.767
Jupiter	246.644	176.917	222.894	Dawn	-30.333
Saturn	229.46	159.733	205.71	Dawn	-47.517
Uranus	264.377	194.65	240.627	Dawn	-12.6
Rāhu	275.667	205.94	251.917	Dawn	-1.31


Dāwn
(पूर्वक्षितिज)
Saturn
Mars
Anurādhā
Jyeshṭhā
Jupiter
Venus
Mūla
Urenus
Rāhū
Mercury
Moon
Sun
Dusk
(पश्चिमक्षितिज)
U. Āshaḍhā
Shravan

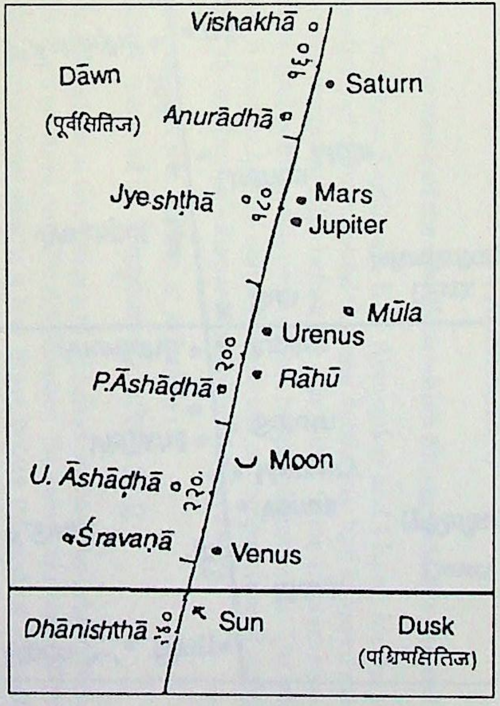
ANNEXURE 7D

Before dawn on the day of death of Karṇa, also after dusk Mārgaśirsha K. 14th

निश्चरन्तो व्यदृश्यन्त सूर्यात्सप्त महाग्रहाः। (कर्ण 37.4)
सोमस्य पुत्रोऽभ्युदिदाय तिर्यक् (कर्ण 94.49)

J.D. 573786 = 11 Dec. 3143 B.C.J.					
Planet	Sāyana	Nirāyana Rohiṇī 0°	Nirāyana AD 285	Obs'ion Time	Sun-to Planet Dist.
Sun	305.482	235.755	281.732	Dawn	0.00
Moon	285.20	215.473	261.45	Dawn	-20.282
Mercury	320.818	251.091	297.068	Dusk	+15.336
Venus	298.194	228.467	274.444	Dawn	-7.288
Mars	249.581	179.854	225.831	Dawn	-55.901
Jupiter	252.107	182.380	228.357	Dawn	-53.375
Saturn	231.521	161.794	207.771	Dawn	-73.961
Uranus	265.999	196.272	242.249	Dawn	-39.483
Rāhu	274.184	204.457	250.434	Dawn	-31.294

निश्चरन्तोव्यदृश्यंत सूर्मात सप्त महाग्रहा (कर्ण ३७४)

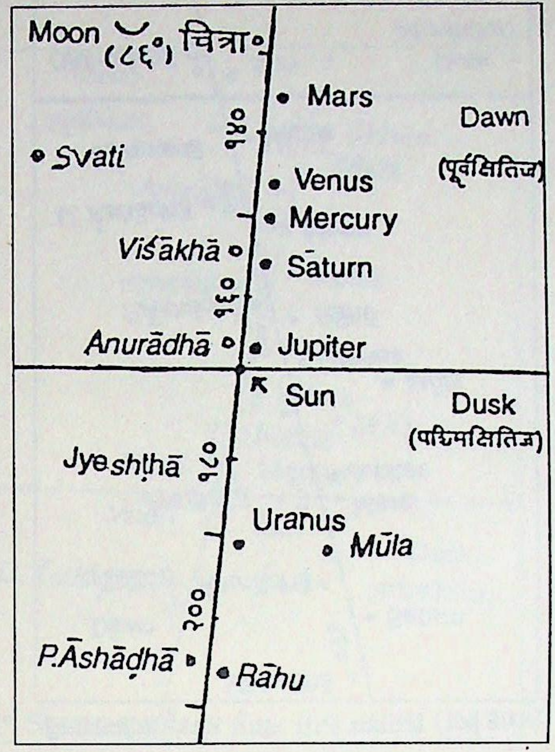

Vishakhā
१६०
Dāwn
(पूर्वक्षितिज)
Saturn
Anurādhā
Jyeshṭhā
१८०
Mars
Jupiter
Mūla
Urenus
२००
P.Āshāḍhā
Rāhū
Moon
U. Āshāḍhā
२२०
Śravaṇā
Venus
Dhānishthā
२४०
Sun
Dusk
(पश्चिमक्षितिज)

- सोमस्य पुत्रोऽभ्युदियाय तिर्यक् (कर्ण ९४४९)

ANNEXURE 7E
Meeting of Kṛishṇa and Karṇa after failure of peace talks

ततो निर्याय नगरात् प्रययौ पुरुषोत्तमः।
मंत्रयामास च तदा कर्णेन सुचिरं सह।। (उद्योग 137.29)

J.D. 573721 = 7 Oct. 3143 B.C.J.					
Planet	Sāyana	Nirayana Rohiṇī 0°	Nirayana AD 285	Obs'ion Time	Sun-to Planet Dist.
Sun	239.106	169.379	215.356	Dawn	0.00
Moon	155.569	85.842	131.819	Dawn	-83.537
Mercury	219.072	149.345	195.322	Dawn	-20.034
Venus	216.449	146.722	192.699	Dawn	-22.657
Mars	204.982	135.255	181.232	Dawn	-34.124
Jupiter	204.982	135.255	181.232	Dawn	-0.683
Saturn	225.604	155.877	201.854	Dawn	-13.502
Uranus	262.064	192.337	238.314	Dusk	+22.958
Rāhu	277.626	207.899	253.876	Dusk	+38.52


Moon (८६°) चित्रा
Mars
Dawn
(पूर्वक्षितिज)
Svati
१४०
Venus
Mercury
Viśākhā
Saturn
१६०
Anurādhā
Jupiter
Sun
Dusk
(पश्चिमक्षितिज)
Jyeshṭhā
१८०
Uranus
Mūla
२००
P.Āshāḍhā
Rāhu

ANNEXURE 8

The name of the month in which Bhīshmāchārya expired

K. Srinivasa Raghavan, K.V. Abhyankar and I have, for the internal consistency of the text, found that one *Adhikamāsa* had followed the month in which the peace talks before the war failed. Some scholars have raised serious doubts about this proposition, hence this annexure. The following verse is always quoted about the practice of computation of *Adhikamāsa*. In this stanza from Virāṭaparvan, Bhīshmāchārya says:-

तेषां कालातिरेकेण ज्योतिषां च व्यतिक्रमात् ।
पञ्चमे पञ्चमे वर्षे द्वौ मासावुपजायतः ।। (विराट 52.3)

In the nature in five years and five days we have two *Adhikamāsas*, and in 15 years we have only 5½ *Adhikamāsas*. Therefore, the word कालातिरेकेण in the above verse means a few years before the end of 15 year cycle. Before we proceed with our subject it is necessary to know (1) at which of the four cardinal points of the solar year, the calendrical year used to begin and (2) which were the names of the six-monthly semesters of the year. The following passages in the *Śatapatha Brāhmaṇa* is important in this respect:-

वसंतो ग्रीष्मो वर्षा ते देवा ऋतवः ।
शरद हेमन्ताः शिशिरास्ते पितरो य एषापूर्यतेऽर्धमासः
……… । यो यत्र उदगावर्तते देवेषु तर्हि भवति
देवास्तहर्य भिगोपायत्यथ दक्षिणावर्तते पितृषु तर्ही
भवति पितृस्तहर्यभिगोपायाति ।।

Śatapatha Brāhmaṇa ii 1.3, 1-3

The year used to begin with spring season. The sun thereafter moved to the northern side of the ecliptic. Its path thereafter was called Devayāna and to the south of the ecliptic it was Pitṛiyāna. (To my mind they were so called because there was a traditional belief among Vedic bards that their ancestors came to Sarasvatī basin from southern India). Ballabh (2000) has found by computer programme that on 16-4-3243 BC, i.e. on the day of vernal equinox, there was a very close assembly of planets near the star Rohinī (Aldebaran). This must be a strong reason for the beginning of the year at the commencement of spring season. There was another pair of names indicating the two divisions of the tropical year. They were उत्तरायण and दक्षिणायन which began at winter solstice and summer solstice respectively.

Time for Inserting the Adhikamāsa

A question is raised as to how the five years were divided into two groups for inserting the Adhikamāsa, either in division of 3 + 2 years or 2½ +2½ years. If there was a practice to make two divisions of 2½ + 2½ years, the middle point of a year would also get importance. However, in verse of *Gītā* (Ch. 11.35) Krishṇa says मासानां मार्गशीर्षोऽहं, i.e. the month at the beginning of the second semester of the year before autumn. This shows that the two divisions for insertion of Adhikamāsa were of 2½ +2½ years.

A very important verse relevant to this point is kept on side-lines in the critical edition. It is in Devanāgarī manuscript dated AD 1494 collected by the then Govt. of Bombay. The verse reads as under:-

> गते वर्षद्वये चैव पञ्चपक्षे दिनद्वये।
> दिवसाष्टमे भागे पतत्येकोऽधिकमासः।। विराट 47.4।।

There is obvious error in the first line. The words पञ्चपक्षे deserve to be corrected as पञ्चमासे. The verse can be explained in mathematical equation about 12 x 2 + 5 solar months = 30 lunar months,

i.e. about 29 solar months = 30 lunar months.

When we add intercalary month to both sides we have about 30 solar months = 31 lunar months.

The words दिनद्वये appear in the first line of the verse because two intercalary months occur not only in five years but in five years and five days. Therefore, in half of the cycle we have to add 2½ days more. The author of the verse asks us to add $2^{1}/_{8}$ days instead of 2½ days. Considering the antiquity of the observer the difference deserves to be ignored.

Effect of Inserting Adhikamāsa at Wrong Point of Time

Our main object is to find out whether there could be a Māgha month in which, *tithi* Ś.8 would have Rohiṇī *nakshatra*. In fact, the addition of two Adhikamāsa in five years is not consistent with nature. The average interval for addition of an Adhikamasa is 32.57 solar months. The natural time for addition of 5th Adhikamasa should therefore be 13 years and 7 months after the beginning of the cycle, but the then civilization added it at the end of 12 years. That is a year and a month earlier. That changed the names of the months after 12 years in following manner.

Mahābhārata Month	*Natural Month*
Adhikamāsa	Mārgaśirsha
Mārgaśirsha	Pausha
Pausha	Māgha
Māgha	Phālguna
(and so for further 13 months)	

K.D. Abhyankar is of the opinion that the year of the relevant civilization began with winter solstice. Let us presume it to be so. In that case the summer solstice would start with Bhādrapada-māsa. Therefore, at the end of 12½ years the month Śravaṇa would be followed by the fifth Adhikamāsa which would unnecessarily shift the succeeding 13 months with following changes.

Mahābhārata Month	*Natural Month*
Adhikamāsa	Bhādrapada
Bhādrapada	Aśvina
Aśvina	Kārttika
Kārttika	Mārgaśirsha
Mārgaśirsha	Pausha
Pausha	Māgha
Māgha	Phālguna
(and so for further 13 months)	

It was therefore possible that the *tithi* Māgha Ś.8 could have Rohiṇī as its *nakshatra*.

6

Astronomical and Historical Epoch of Kaliyuga

K.D. Abhyankar and G.M. Ballabh

An attempt has been made to determine the epoch of Kaliyuga from astronomical and historical point of view. Ballabh's computations show that there was no superconjunction of planets as postulated by Āryabhaṭa during the long period from 3500 BC to AD 3000. However, taking simultaneous combustion (*asta*) of all planets on a new-moon day (*amāvasyā*), or their appearance together with the moon in the early morning before sunrise as near superconjunctions, we get 16-4-3243 BC and 7-2-3104 BC as the dates of the Kaliyuga close to the traditional date of 18-2-3102 BC.

Kaliyuga epoch can also be found by fixing the date of Mahābhārata War, which is supposed to have occurred around that time. The crucial event is Bhīshma's death, which is considered to have occurred at winter solstice. Taking the traditional *tithi* of Māgha Śukla 8 for this event, one finds a date of 1500 ± 300 BC which agrees well with the findings of undersea exploration of submerged Dvārakā near Beṭ Dvārakā by S. R. Rao. Pushing it to Māgha Kṛishṇa 8, as done by P.C. Sengupta (1947) one obtains 2449 BC which is Varāhamihira's estimate of Kali epoch. But one has to push it to Phālguna Śukla 8 if we want to go back to Āryabhaṭa's Kaliyuga as done by P.V. Holay (1999). However, he still calls it Māgha Śukla 8 by introducing an unnecessary intercalary month (*adhikamāsa*). The calendars of Mahābhārata War by Sengupta and Holay are juxtaposed.

ASTRONOMICAL CONSIDERATIONS

According to Āryabhaṭa (*Āryabhaṭīya*: Gītikā 3 & 4), the current Mahāyuga started when the sun, the moon and the five naked eye planets and the apogee as well as the ascending node of the moon's orbit (Rāhu) came together at Meshādi on Chaitra Śukla 1 at sunrise of Wednesday in Laṅkā. Further, according to him (*Āryabhaṭīya*: Gītikā 5), three-fourth of that Mahāyuga was over at the commencement of the present Kaliyuga. Consequently, at the beginning of Kali epoch, while the seven luminaries were at Meshādi, the apogee of moon was 90 degrees away and the ascending node (Rāhu) was 180 degrees away. *Pañchāṅga* makers take it to be the local sunrise at Ujjain on Julian date 18th February 3102 BC.

In order to test Āryabhaṭa's hypothesis, Ballabh has written a computer programme for finding close planetary grouping within a span of 30 and 10 degrees and has made computations from 3500 BC to AD 3000. It was found that there was no superconjunction of the Kaliyuga type during the entire period of 6500 years. The seven luminaries came closest together within a span of 11 degrees on the *amāvasyā* of 15-9-1186 AD when all the five planets were combust (*asta*). Similar situations occurred on three other times but with larger spans viz. on Julian dates 16-4-3243 BC, 26-6-1296 BC and 12-10-1198 BC within the span of 17, 22 and 20 degrees respectively. Out of these the one on 16-4-3243 BC is the closest to the traditional epoch of Kaliyuga. At that time the seven luminaries were together in Vṛishabha Rāśi along with Rāhu and the sun was at vernal equinox (*Vasanta Sampāta*) with tropical longitude equal to 359 degrees. So this superconjunction can be taken as an observed epoch of astronomical Kaliyuga in the sense that all the five planets and the moon were invisible due to their proximity to the sun. However, as the vernal equinox was near Rohiṇī at that time, it fits better with the Kṛittikādi list of *nakashatras* in *Yajurveda* instead of the Aświnyādi list of the Siddhānta period. Moreover, it does not include the beginning of the year in that epoch, because the year used to start at the winter solstice in those days (Abhyankar, 1988).

In an earlier paper (Abhyankar and Ballabh, 1996), we had identified the configuration of planets at sunrise at Ujjain on Julian date 7-2-3104 BC as representative of the Kaliyuga epoch, because that sight could be interpreted as the seven luminaries being together in the sky. It is now found by Ballabh that such configurations occur quite frequently: 26 times in the morning before sunrise and 19 times in the evening after sunset in the span of 6500 years for which computations were made. So apparently there is nothing special about such configurations. But the one on 7-2-3104 BC was unique in the sense that it occurred in the first month of the year which had begun on Phālguna Śukla 1 of 11-1-3104 BC with the sun at tropical longitude equal to 268 degrees near winter solstice. We have explained in that paper how the confusion between the year beginning at winter solstice of the earlier period and at vernal equinox in Siddhānta period gave rise to the erroneous theory of trepidation.

HISTORICAL CONSIDERATIONS

According to Āryabhaṭa, Kaliyuga started from the Mahābhārata War, but according to Mahābhārata tradition it started with the Mahānirvāṇa of Lord Kṛishṇa which took place 36 years after the war. Historians of Kashmir and Nepal used another marker for time measurement, viz. the Saptaṛishi or Loukika era which began with the ascension of Yudhishṭhira to the heavens 25 years after the beginning of Kaliyuga. According to these traditions, the Mahābhārata War occurred in 3138 BC, Kaliyuga started in 3102 BC and Saptaṛishi era commenced in 3077 BC. As Yudhishṭhira performed Rājasūya sacrifice 25 years before the Mahābhārata War, he ought to have ruled from 3163 BC to 3077 BC. But Varāhamihira says that Yudhishṭhira ruled some 2526 years before the beginning of Śaka era. This gives for him a date of 2449 BC, which would also then represent the era of the Mahābhārata War. Sengupta (1947) has drawn attention to a third alternative. In Purāṇas, it is stated that Mahāpadma Nanda came to power some 1015, 1050 or 1500 years after the Mahābhārata War according to three discordant recensions. As Chandragupta Maurya ascended the throne of Pātaliputra in 321 BC, fifty years after Mahāpadma Nanda, we get for the Mahābhārata War a date of 1386, 1421 or 1871 BC. The controversy between the three dates of 3138 BC, 2449 BC and 1650±200 BC might be resolved if we could determine the date of the Mahābhārata War from the astronomical references in *Mahābhārata*.

The most important astronomical reference pertains to the death of Bhīshmapitāmaha, which is said to have occurred on Bhīshmāshṭāmi, i.e. Māgha Śukla 8, one day after the winter solstice day of Rathasaptamī, i.e. Māgha Śukla 7. Now at present Māgha Śukla 8 occurs on February 5 on an average. As winter solstice occurs on December 22, there has been a shift of 45 days in the date of winter solstice due to the phenomenon of *ayanachalana*. At the rate of 71 years per day of *ayanachalana* we get a time lapse of 3200 years, which gives a date of about 1200 BC for the Mahābhārata War. As Māgha Śukla 8 shifts by ± 15 days around February 5 due to the mechanism of *adhikamāsas*, the date of the war could be put as 1200±1000 BC. These dates tally with the accounts of Purāṇas as well as with the *Vedāṅga Jyotisha* calendar. In *Vedāṅga Jyotisha*, winter solstice occurs when the sun arrives in Dhanishṭhā *nakshatra*, so its date depends upon the identification of that star. At present it is identified with the star β Delphini (*Nirayana* longitude =292 deg.) which gives a date of 1200 BC. But if we identify β Aquarii (*Nirayana* longitude = 300 deg.) with Dhanishṭha as suggested earlier (Abhyankar, 1991) the date can be pushed back to 1800 BC. It is likely that the above astronomical reference in the *Mahābhārata* and the statements in Purāṇas were incorporated in the *Mahābhārata* when *Vedāṅga Jyotisha* was in vogue. These dates also fit with recent undersea exploration at Beṭ Dvārakā by S.R. Rao which shows the evidence of submergence of Lord Kṛishṇa's Dvārakā below the sea around 1500 BC as reported in the *Bhāgavata Purāṇa*.

CALENDAR OF THE MAHĀBHĀRATA WAR

Now references to other *tithis* and/or *nakshatras* of the events before and during the war should also be considered for setting the date of the Mahābhārata War. Positions of planets are only of secondary importance because they are not unambiguously specified. These considerations might take us to earlier epochs, but sticking to Māgha Śukla 8 as marker of winter solstice will not help us as explained above. We shall consider two attempts: one made by P.C. Sengupta (1947) more than fifty years ago and the other recently by P.V. Holay (1999). Both assume that the war did not start on Śukla 1 immediately after the Kārttika *amāvasyā* with Jyeshṭhā *nakshatra*, because, as stated by Holay, time was required for the preparation between the breakdown of the peace parleys and the start of the war. But Sengupta, like the B group of Holay, starts the war 13 days later on the following Śukla 14, while Holay defers it by one lunar month. Consequently, Sengupta obtains 2449 BC as the year of the Mahābhārata War while Holay puts it in 3143 BC. Let us examine these two alternatives.

Holay has introduced an intercalary month (*adhikamāsa*) after Kārttika *amāvasyā* in order to start the war on Mārgaśīrsha Śukla 1 and to obtain Bhīshma's death at winter solstice on Māgha Śukla 8. Now Jyeshṭhā is the normal *nakshatra* for Kārttika *amāvasyā*, so there is no need to introduce an *adhikamāsa* at that time. Further, the winter solstice used to occur in Phālguna month and not in Māgha around 3143 BC (Abhyankar, 1998). However, Holay did not like to consider the *adhikamāsa* as normal Mārgaśīrsha, because it would have shifted the Mahābhārata War to the month of Pausha, which is not acceptable to many scholars. But the introduction of *adhikamāsa* has obscured the effect of pushing Bhishma's death of Phālguna Śukla 8. We have already remarked that the astronomical references in the *Mahābhārata* were probably inserted when *Vedāṅga Jyotisha* was in vogue.

Holay has further introduced a gap of 12 days in the war after Bhīshmapatana for which there is no evidence in the *Mahābhārata*. He has done this to achieve three things: (1) To push Jayadratha's death into the dark half of the month; (2) To have Gitajayanti on the traditional *tithi* of Mārgaśīrsha Śukla 11 and utilize the gap of 12 days for the exposition of adhyātmagītā; (3) To have 42 days gap between Balarāmạ's going on pilgrimage and his return at the end of the war to observe Duryodhana's death, for which he has also shifted Kṛishṇa-Balarāma meeting from Kārttika Kṛishṇa 5 to Adhika Mārgaśīrsha Kṛishṇa 3.

All these changes are not required in Sengupta's calendar of the Mahābhārata War, which is given in Table 1 as verified by us. All times are in IST for Kurukshetra (Lat. 30^0 00′ N, Long. 76^0 48′ E). The main features of Sengupta's calendar are:

1. Breakdown of peace parleys that took place on Kārttika Kṛishṇa 5. Balarāma leaves for pilgrimage after meeting Kṛishṇa on the same day having Pushya *nakshatra* on Julian date 11-10-2449 BC.
2. Kṛishṇa meets Karṇa on Kārttika Kṛishṇa 8 (14-10-2449 BC) which is followed 7 days later by Kārttika *amāvasyā* at Jyeshṭhā *nakshatra* on 21-10-2449 BC at 7:18 a.m. in Kurukshetra.

Table 1: P.C. Sengupta's Calendar of the Mahābhārata War

Tithi, Nakshatra	Event	Julian Date BC	Astronomical Phenomenon at Kurukshetra
Kārttika K 5, Pushya	Breakdown of peace parleys Kṛishṇa-Balarāma meeting Balarāma leaves on pilgrimage	11-10-2449	
K 8	Meeting of Kṛishṇa and Karṇa	14-10-2449	
K 30, Jyeshṭhā	Kārttika *amāvasyā*	21-10-2449	Jyeshṭhā (Antares) at 7:18 a.m.
Mārgaśīrsha Ś 12	Gītājayantī	1-11-249	
Ś 14, Kṛittikā	Anumati Paurṇimā	3-11-2449	Kṛittikā (Alcyone) at 2:28 a.m. and Rohiṇī (Aldebaran) at 10:17 p.m.
Ś 15, Rohiṇī	Beginning of Mahābhārata War	4-11-2449	
K 8	Bhīshmapatana	13-11-2449	
K 12	Death of Jayadratha	17-11-2449	
	Next morning	18-11-2449	Moonrise 5:03 a.m. Sunrise 6:46 a.m.
Pausha Ś 2, Śravaṇa	End of Mahābhārata War Return of Balarāma from pilgrimage and death of Duryodhana	21-11-2449	Śravaṇa (Altair) at 5:10 a.m.
Māgha K. 6, K 7	Uttarāyaṇa Bhishma's Death	9-1-2448 10-1-2448	0:40 a.m.

3. Mārgaśīrsha Śukla 14 was an *anumati* type *paurṇimā* with the moon conjuncting Kṛittikā on 3-11-2449 BC at 2:28 a.m. and Rohiṇī at 10:17 p.m. The war started on the next day, i.e. on 4-11-2449 BC, which was Śukla 15.
   (Here we would like to make the following suggestion. Since Mārgaśīrsha Śukla 11 is celebrated as Gītājayantī, we can take the 3 days from Śukla 11 to Śukla 13 as the period of *Gītā* discourse before the start of the war.)
4. Bhīshmapatana occurs on the 10th day of war, i.e. 13-11-2449 BC which was Kṛishṇa 8 of Mārgaśīrsha.
5. Jyadratha's death occurred on Kṛishṇa 12, i.e. 17-11-2449 BC. On the next morning, i.e. on 18-11-2449 BC, the moon rose with Jyeshṭhā *nakshatra* at 5:03 a.m. and the sunrise followed at 6:23 a.m.
6. The war ended with Duryodhana's death, which was observed by Balarāma after returning from pilgrimage on 21-11-2449 BC. It was Pausha Śukla 2 with the moon near Śravaṇa *nakshatra* at 5:10 a.m.
7. Winter solstice occurred on Māgha Kṛishṇa 6 at 0:40 a.m. on Julian date 9-1-2448 BC and Bhīsma expired on the next day on Māgha Kṛishṇa 7 on 10-1-2448 BC.

In this calendar, the interval between Balarāma's start and end of pilgrimage is 42 days and the interval between Bhīshmapatana and his expiry is 58 days, as required. The corresponding dates in Holay's calendar are: (1) 4-10-3143 BC and 1-11-3143 BC, (2) 7-10-3143 BC and 13-10-3143 BC, (3) 14-11-3143 BC, (4) 23-11-3143 BC, (5) 7-12-3143 BC, (6) 11-12-3143 BC and (7) 16-1-3142 BC.

We have already remarked that the position of planets given in the *Mahābhārata* are ambiguous and one can choose those which agree with one's point of view. Holay has laid stress on simultaneous appearance of all planets including Uranus. But his diagram for 3-11-3143 BC indicates that Uranus and Mercury were too close to the sun to be visible. Similarly on 11-12-3143 BC Mercury and Venus were combust (*asta*).

. Sengupta has verified the following statements of the *Mahābhārata* in his work.

1. Saturn is only 10 deg. away and Jupiter is close to Rohiṇī (α Tauri) during 14-10-2449 to 21-11-2449 BC as stated in Bhīshma 2, 32/1: Udyoga 143, 8 and Karṇa 94, 51.

2. Mars moved from Chitrā to Viśākhā during the above period in the direct motion (*mārgī*) instead of it being in retrograde motion (*vakrī*) from Jyeshṭhā to Chitrā as stated in Udyoga 143, 9 & 10/1.
3. On 3-11-2449 BC the moon was near Rohiṇī and the sun was near Jyeshṭhā, the other (Jyeshṭhā) Rohiṇī, as stated in Bhīshma 3,17/1.
4. At sunset on the last day of the war Venus was combust (*asta*) and Mercury was seen before sunrise as stated in Karṇa 94, 49.

On the whole, Sengupta's calendar appears more cogent than that of Holay.

CONCLUSIONS

Accurate computations do not show any superconjunction of planets of the Kaliyuga type within the long period from 3500 BC to AD 3000. However, all the planets were combust (*asta*) on four *amāvasyās*, out of which the one on 16-4-3243 BC is the closest to Āryabhaṭa's Kaliyuga epoch. But that close superconjunction occurred near the vernal equinox day of that period, i.e. at Rohiṇī instead of Aśvinī. Simultaneous appearance of all planets at the time of sunrise or sunset occurs quite often. But the one occurring on 7-2-3104 BC can also be taken as Kaliyuga epoch, because it could have been seen in the first month of the year, which used to start at winter solstice in those days.

As the beginning of Kaliyuga is associated with the Mahābhārata War, fixing its date can also determine the epoch of Kaliyuga. Taking Māgha Śukla 8, the traditional *tithi* of Bhīshma's death, as winter solstice day we get a date of about 1600±200 BC, which agrees with the undersea exploration near Beṭ Dvārakā. If one wants to go further back, the *tithi* of Bhishma's death has to be shifted in Indian *pañchāṅga*. Pushing it to Māgha Kṛishṇa 8 takes us back to 2449 BC, which agrees with Varāhamihira's estimate of Kali epoch.* But one has to push it to Phālguna Śukla 8 if one wants to go back to Āryabhaṭa's epoch of Kaliyuga.

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* But Varāhamihira refers to the time of Yudhishṭhira, viz. Mahābhārata War, and not to the start of Kaliyuga. About the epoch of Kaliyuga almost all the Indian traditions are unanimous. In fact, the debate is about the date of the Mahābhārata War. — Ed.

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7

The Weaponry in the Bhārata War

N.R. Waradpande

Our only source of information about the Bhārata War is the *Mahābhārata*. The epic now available, is not a unitary work composed by one author. This is clear from the fact that it contains astronomical, historical and archaeological data which point to different periods right from 3101 BC to the Christian era. The Northern course of the Sun when the moon was in the rohinī constellation in the bright half,[1] points to 3101 BC, Kārttika being the last month of autumn[2] could belong to the period after 2000 BC. The Northern course of the Sun in the Śravaṇa constellation,[3] the rapid spread of Buddhism,[4] the reference to Śakas, Hūnas and Yavanas (BVP 17/23) clearly refer to the first millennium before Christ.

The change in weapon-technology in these periods is also reflected in the descriptions in the *Mahābhārata*. The date 3101 BC belongs to the Chalcolithic Age when weapons were made of stone and copper; 2500 to 1500 BC was the Bronze Age when bronze replaced copper in a major way. The first millenium BC falls in the Iron Age when iron replaced bronze.

CHALCOLITHIC WEAPONS

Copper is soft and bends easily. So a full-length sword cannot be made out of copper. Such a sword would easily bend in mid-combat and render the warrior weaponless.

Mace

The close-combat weapon of the Kauravas and the Pāṇḍavas was the mace. The mace is a very unwieldy weapon. It is very heavy and the only effective blow possible with it is from above downwards. A blow from below upwards or even laterally would counteract its weight. Further, no thrusts with it are possible. The maces were made of stone (*adrisāramayī*). This shows that the mace would be useless against an opponent armed with a full-length sword. This is mentioned in the *Mahābhārata* itself.[5]

It is reasonable to infer that with the advent of the sword in the Bronze Age, the mace fell out of use. No maces were used in the Trojan war which was fought in 1200 BC when bronze swords were quite common and even iron swords were made by the Hittites. No war after 1200 BC is known to have employed maces.

The maces were made of stone (*adrisāramayī*).[6]

It should be noted that the Kauravas and the Pāṇḍavas were the leading powers of the day. So the arguments that, "even after the currency of fire-arms, tribes are using bows and arrows" is not relevant. If leading powers of the day use bows and arrows, the explanation lies in their backwardness.

There are three occasions on which the *Mahābhārata* speaks of the use of the "sword". (1) Bhūriśravas trying to behead Sātyaki.[7] (2) Dhṛishṭadyumna beheads Droṇa.[8] (3) Sātyaki beheads Kṛitavarman.[9]

Both Bhūriśravas and Dhṛishṭadyumna catch their victims by the hair in order to behead them. This clearly indicates that their "sword" was really a copper dagger and it was not possible for them to behead their victims with one blow, without catching them by the hair and operating their "sword" on their necks like a saw. Only a full-length sword can sever the neck with one blow without catching the victim by the neck.

The account in Mausalaparvan where Sātyaki draws his sword, advances and beheads Kṛitavarman must belong either to the Bronze or the Iron Age.

Long-Range Weapons

The long-range weapons were bows and arrows and the slings called *bhindipālas* (BVP 43/14). The *bhindipālas* are as effective as bows and arrows in what is called *saṅkulayuddha* or mass-warfare where accurate aiming is not very important. The bows and arrows are clearly superior in accurate aiming.

Different types of bows are mentioned. Those called *śārṅga* were made of horn. Horn is very difficult to bend though it is elastic. This means that one who can bend it, can send an arrow at a tremendous speed.

The bow of Arjuna was called *gāṇḍiva*. The word is derived from *gaṇḍa* meaning knot. 2/3 shafts of cane were tied to make the bow strong, so that it required great strength to string and stretch it. The arrow discharged by it had a great punch. Such bows were called *bhārasādhana* (BVP 74/53) or heavy performers. *Bhārasādhana* bows were *dvādaśaratnī* or twelve forearms in length (Droṇa 144/21), like the bows used by the warriors of Porus against Alexander. These were rested on the ground when they were used, not lifted like other light types of bows.

A light type of bow is reported to have been used by Droṇa to deal with attackers who came near his chariot. This bow did not have to be pulled much, thus saving the time for discharge of arrows and the number of arrows discharged per minute was much greater than that discharged by the heavy bow which had to be stretched right up to the ear with great exertion. When opponents are near, one cannot afford to spend so much time in striking.

Types of Arrows

The arrows discharged by this small bow were short and were called *vaitastika* or span-like (Droṇa 107/55). *Kshudraka* seems to be another type of short arrow (JVP 96/4).

An arrow called *vatsadanta* (BP 57/41) obviously had an arrowhead made of the tooth of young animals because a young tooth is stronger. The nails of a tortoise were also used as arrowheads (Droṇa 100/81).

The *nārācha* arrow (BVP 47/23) was wholly made of metal. (*sarvapārśive* or *sarvalohamaya*). *Nārācha* is also called *prakshveḍana* or a shrieker (*Amarakośa* II. 8.87). Shrieking bombs were used in the Second World War. They were not more destructive than ordinary bombs but the shrieking noise which they made, unnerved the enemy. *Nārācha* arrows must have similarly wrecked havoc. The word *nara* or *nala* stands for pipe. So the shaft of these arrows was made of a metal pipe. A pipe instead of a solid bar, besides making the arrow lighter, helps in increasing the noise. A few holes in suitable places will enhance the noise. The *Nārācha* arrows are mentioned also by the name *nalika* (BMP 90/32)

The arrow were generally made of cane-like shafts as is clear from the word *bāṇa* which stands for cane or bamboo. Such arrows had feathers stuck into holes made specially for this purpose at the rear end. This served to keep flight straight.

Some arrows are called by the name *viśikha*, i.e. without feathers (Śalya 15/72). These were most probably hollow metal shafts with metal fins in place of feathers.

The *bhalla* arrows obviously had spear-shaped heads. *Kshurapras* had razor-heads and were used for chopping off bowstrings or even limbs (Śalya 12/19). *Vikarṇa* or earless arrows (KP 84/8) were arrows which did not have ear-like protrusions behind the arrowhead. Such protrusions were intended to make it difficult for the arrows to be safely pulled out of the body of a soldier pierced by it. The *vikarṇa* or earless arrows were therefore recommended (Droṇa 157/11).

The types of arrows regarded as unfair were *nalika*, i.e. piped, poisoned or *lipta* and *bastaka*. The piped arrow was disapproved perhaps because frightening the enemy with its noise was regarded as unwarrior like. It is not clear why *bastaka* was disapproved. *Basta* means a goat and the *basta* arrow was perhaps made of the horn of a goat.

Other Weapons

Tomara (BVP 52/22) was a club studded with spikes. This weapon circumvents the main defect of copper, viz., bending, by using spikes. Spikes being short will not bend easily. Length is provided by the club.

Karpaṇa (BVP 52/22) was a weapon which was mainly used for cutting as against piercing as its name suggests. The word *karpaṇa* contains the root *kṛip* to cut. *Karpaṇas* are necessary when the opponent is to be hit on the leg or the arm, a man shot in the arm or the leg can still fight, but if his limbs are cut, he cannot do so.

Śaktis are mentioned as thrown. These are generally regarded as javelin. Ghaṭotkacha was killed by Karṇa by such a *śakti*.

Pāraśvadhas, i.e. battle-axes are frequently mentioned. Paraśurāma was famous for fighting with battle-axes. The battle-axes were more useful in the Chalcolithic Age because they circumvent the main defect of copper, viz. bending, if made too long. The length in the battle-axe is provided by the wooden shaft. Being lighter, battle-axes could have been more effective than the maces if the opponent was not heavily armoured.

Avaskanda (BVP 91/55) literally means pulling down. This was most probably a ring with a rope tied to it and thrown at the opponent. When the opponent was caught in it he was pulled down from his horse or elephant etc. Obviously this was done when the opponent was retreating so that his forward movement helped in pulling him down. This technique could not be used when the opponent was face to face; he would make short work of the *avaskanda*-holder by a thrust of his spear.

The *pāśa* (BVP 91/56) was a sort of noose by which the enemy was strangled. This was obviously used in body-contact combats like wresting. It would be suicidal if the enemy was at a sword's distance. The process of throwing the *pāśa* would be far more dilatory than the plunge of the dagger or the sword.

Shields of bullock-hide are mentioned by the word *ārshabha charma* (BVP 66/31). Clearly a shield of the hide of bullocks will not be a defence against a bronze or a steel sword. It could, however, be sufficient protection against the copper dagger or the sword of horn.

Not only the shields but also coats of mail were made of bullock-hide as is clear from the statement that Bhīshma's arrows did not stick in these coats (BVP 112/71). Coats of bullock-hide cushioned from inside would be a protection against copper arrowheads because when they did not strike exactly perpendicularly, they did not penetrate the coat but got stuck in it laterally. The length of a copper arrowhead is short because a long arrowhead can bend and become ineffective. Bhīshma's shots hit perfectly perpendicularly.

Bhīma is described as uprooting trees and fighting with them. These are clearly poetic exaggerations. Even an elephant cannot uproot trees like the palm which is said to have been used as a weapon. Fighting with the palm tree refers to fighting with the clubs made of the wood of palm trees.

A *śaikyāyasī gadā* (BVP 49/22) or a metal-sling-mace was thrown obviously like the hammer in the hammer-throws. Such hammers can be thrown to long distances. The *śaikyāyasī gadā* was thus a long-range weapon. Stone mace-heads being brittle were broken to pieces when they hit the copper coat of mail on the elephant's forehead, the front parapet of a chariot, the head of a horse and the body of a soldier. This coat of mail must have been well cushioned from inside and sufficiently thick to absorb the impact of the hitting mace-head. Being practically unbreakable, it is the stone mace-head that will break with the impact. If the mace-head is made of copper, it will not break and will be more effective against armour.

BRONZE AGE WEAPONS

Vipatha or *vipata* (BVP 55/27) literally means the "breaker". This is the name of an arrow. Arjuna used it to break the missiles of the enemy. These missiles which broke by striking another missile must have been made of stone or bronze, because neither copper nor iron will break with the impact of an arrow, a powerful shot will only make a hole in it.

There is an important description in the Abhimanyuvadha-parvan[10] – Jayadratha directs a blow to Abhimanyu with his sword. Abhimanyu parries it. So Jayadratha's sword gets stuck in his quiver which was made of leather (*charmaṇi*). When Jayadratha tried to pull it back, it was broken to pieces.

Obviously these swords were made of bronze. Only a bronze sword will break like this, not an iron one. It was not a copper sword because copper is less brittle even as compared to iron and it will never break with a mere pull. Moreover, the description shows that the sword was a full-length one (*mahānasiḥ*). Jayadratha must have aimed the blow somewhere under the neck below the armour-cover. Abhimanyu ducked ahead so that the blow fell on the quiver.

In another description Aśvatthāman's arrow breaks the sword of Śikhaṇḍin. Śikhaṇḍin then uses the piece left in his hand like a dagger and throws it on Aśvatthāman who then breaks this piece with another arrow.[11]

IRON AGE WEAPONS

Paṭṭīśa (BVP 91/56) is known as the *paṭṭa* or the rapier. This weapon belongs to the Iron Age since the very thing and elastic blade of the *paṭṭa* can be made only of steel.

Śataghnī (BVP 91/61) literally indicates that this weapon could kill a hundred in one round. This means that it could throw a stone so big that if it fell on a group of 100 soldiers, all of them would be killed.

The *śataghnīs* were most probably catapults like those of Archimedes with which he fought the Romans at Syracuse. The date of Archimedes is 287 to 212 BC. The bulk of the *Mahābhārata* was composed around this time.

ARCHAEOLOGY CORROBORATES LITERATURE[12]

The literary evidence is supported by archaeology. The discovery of copper weapons[13] in areas connected with the Bhārata War strengthens the traditional view that the Bhārata War was fought in the Chalcolithic Age. The copper objects recovered from the excavations are ascribed to a period near about 2800 BC by archaeologists. This is near about the traditional date of the Bhārata War.

The "swords" found, range from 42 to 75 cm. These are called antennae swords because of the antennae-like bifurcations of the hilt end. These swords are cast with antennae as one piece and have long blades with a short hilt. Even in a 75 cm sword, the blade and the tip would be 15 cm only. The thick median-ridged portion is designed to prevent the bending of the copper swords. Such a sword could not have been used in war like a regular sword.

They were perhaps used as the *hulas* in the Bhārata War which were buried in the ground so that the enemy trotting on it would be wounded enough to be unable to fight (Droṇa 166/20).

The advantage of the antennae is that the swords can be fixed securely in a narrow cleft made in heavy wooden logs. Such logs with antennae swords projecting out could be placed at the bottom of pits.

The second type of weapon is the harpoon. It is mid-ribbed, spear-headed with oblique or backward-curving barbs, quite often with a hole on a lug. It is clear that the spear-head was fastened to the shaft by strings passing through these barbs. The solitary hole was probably for the copper nail to be driven through it. The hole is solitary because driving a copper nail through hard wood is not easy. So nailing was very sparingly used for fastening. Arrowheads must have been similar to the harpoon.

I suggest that the *nataparva* arrows mentioned in the *Mahābhārata* are none other than these harpoons tied to a wooden-shaft. *Nataparva* literally means a bent joint. How the joint of an arrow can be bent was a puzzle to me until I saw this harpoon. The barbs in this harpoon are bent in the direction opposite to that of the line of its thrust and they were tied at these very places to the shaft. So they are really arrows whose joints are bent. These barbs were perhaps not bent in other types of arrows.

The third type of copper weapon is the anthropomorphic. This looks like a human figure with a hammered and blunted head, externally sharpened and incurved forearms and plain legs. The shape is cut from a plain copper sheet by beating from the top.

Though this looks like a human figure, it is really a weapon, its legs are exactly like a boomerang. When thrown, it goes whirling. Only a replica of this weapon was tested as a missile. The replica did not return like a boomerang, but experts believe that the original would. This, however, could not be verified since the museum does not lend its exhibits.

This then could be the prototype of Kṛishṇa's *sudarśana chakra*, its edges could serve to cut necks and hands. A bowstring caught inside the arms could also be easily cut.

One peculiarity of these copper weapons is that they are very often alloyed with arsenic, 50 per cent of the weapons have more than 1 per cent arsenic. Arsenic alloying makes copper harder and was a step towards bronze which is copper hardened by tin alloying.[14]

This arsenic alloying is referred to in the *Mahābhārata* by the word *śilāśita* (Śalya 24/39) which qualifies the word arrow. A *śilāśita* arrow is an arrow which is made thin-edged by the use of *śilā*, i.e arsenic. *Śilāśita* cannot be translated as thin-edged like a stone. The edges of copper can be made thinner than that of the stone because the stone will break if we try to give it a very thin edge. *Śilāśita* did not also mean "sharpened by a stone", because sharpening is done only on a stone and there is no point in saying that a particular arrow was sharpened by stone.

Arsenic alloying should not be confused with arsenic smearing. The smearing is referred to by the word *śitādhauta* (Śalya 25/5,55/27). The arrows were smeared with arsenic to make them poisonous. The word *śilā* in *śilādhauta* leaves no doubt that the word *śilā* in *śilaśita* refers to arsenic.

DATE OF THE BHĀRATA WAR

The find of the chalcolithic weapons can be regarded as archaeological evidence for the historicity of the Bhārata War. Those who oppose this view make much of the fact that these weapons have not been found at Kurukshetra. This objection sounds credible only on the view that the Bhārata War was fought within the municipal limits of the present-day Kurukshetra. Nothing could be farther from the truth. The *Mahābhārata* clearly states (JVP 98/12) that the place where Arjuna was pursuing Jayadratha was three *yojanas* from the place where Droṇāchārya was trying to capture Yudhishṭhira. Three *yojanas* come to about 24 to 27 miles. Thus, the front of the Bhārata War was at least 30 miles long.

It should be remembered that the front is not the base of operations. The rival armies do not put all the soldiers to the field at one go. The armies are encamped at some place from where they supply weapons and men to the front. These encampments are the bases from which the armies operate. The base of the Kauravas comprised the Punjab, Haryana, Rajasthan and Ahichchhatra, i.e. Rampur, (Senodyogaparvan 19). This is about 200 miles long. The Kauravas mobilized first, as clear from the statement that Duryodhana mobilized his army the very day peace-parleys broke down, while the Pāṇḍavas mobilized after Kṛishṇa returned to their camp. Since the Kauravas had already chosen a base to the west of Kurukshetra, the Pāṇḍavas chose base to the east. This base must have been facing the base of the Kauravas. Though the *Mahābhārata* does not give the geographical details of the Pāṇḍava encampment as it does in the case of the Kauravas, it clearly states that the Pāṇḍavas were facing the west (Udyoga 195/11) and the Kauravas the east. Agrawal gives a map of the chalcolithic sites. This map shows areas of Haryana, Rajasthan, Ahichchhatra, Hastinapura and the areas facing them in the east as chalcolithic. In other words, though the small area of Kurukshetra is not classified as chalcolithic, the areas where the armies were encamped were mostly chalcolithic.

LINGUISTIC EVIDENCE

That the period of the Bhārata War belongs to the earlier period of the *Ṛigveda* when swords were not invented, makes one expect that probably the Sanskrit language of this period did not have a word for the sword. It can be shown that this was in fact the case. The *Amarakośa* mentions the following words for the sword – *khaḍga, nistriṁśa, chandrahāsa, asi, ṛishṭi, kauksheyaka, maṇḍalāgra, karavāla* and *kṛipaṇa.*

All these words originally referred to the dagger. *Khaḍga* means the horn of a rhinoceros. This was used as a sword and is only 40 cm in length. *Nistriṁśa* means longer than thirty *aṅgulas.* An *aṅgula* is defined as equal to eight barley-grains placed with their middle portions touching each other. I have thus placed.the said grains and found them to make half an inch. This is also the breadth of a finger (*aṅgula*). *Nistriṁśa* was therefore only about 15 inches. A 40 cm *nistriṁśa* made of copper has been found in Mohenjodaro.[14]

The Bhīshmavadhaparvan states that the *nistriṁśas* were thrown (82/30, 31, 67/17). This shows beyond doubt that they were not full-length swords because full-length swords are never thrown. Further, the statement must have been made in the pre-bronze-age when the word *nistriṁśa* had not acquired the meaning of a sword.

Another indication that the *nistriṁśa* was not a full-length sword is in the fight of Dhṛishṭaketu and Paurava (BVP 112/19, 20). They were both fighting with bullock-hide shields and *nistriṁśas.* If the *nistriṁśas* were full-length swords of bronze or steel, bullock-hide shields would be of no avail against them. So these *nistriṁśas* were clearly copper daggers or more likely the horns of the rhinoceros. The horns of the rhinoceros are on the average 40 cm or 30 *aṅgulas* in length. So the *nistriṁśa* longer than 30 *aṅgulas* was something outstanding.[15]

Chandrahāsa was the name of Rāvaṇa's sword. So it is a proper name. Proper names are not meant to designate the properties of the object named.

Asi is derived from the root as to throw and was thus a dagger which is very often used as a missile. *Ṛishṭi* is rendered by Sāyaṇa (*Ṛigveda-bhāshya* 9/112/1) as a tool for chiselling wood. So this was some sort of a carpenter's tool like the present *paṭāsī* which could not be longer than a dagger. *Kauksheyaka* was a weapon which could be kept in the cloth tied round the belly. So this could not be a full-length sword. *Maṇḍalāgra* was obviously a weapon with curved tip. No full-length swords are known to have curved tips. *Maṇḍalāgra* was therefore most probably a sickle-like weapon used for cutting throats.[16] *Karavāla* clearly refers to a *bala* or a puny weapon in the hand. *Kṛipaṇa* is derived from the root *kṛip* to cut and originally referred to a knife or a blade. A pair of scissors is called *kṛipaṇī*. This is the nominative singular of the word *kṛipaṇin*. There is tendency to drop the consonant 'n' at the end of word. So *Dharman* becomes *dharma*. When the word takes the form *kṛipaṇī*, it appears a dual of the word *kṛipaṇin*. The dual shows that the blade of a pair of scissors was called a *kṛipaṇī*. The root *kṛip* is not found in Pāṇini, but it is clearly seen in the word *kṛipaṇa* meaning miser, i.e. one who cuts expenditure.

It is thus clear that the older words for a knife were used for the sword when the sword was invented. This is usual in the history of a language.

The word *śilimukha* for the arrow also belongs to the Chalcolithic Age. *Śila* means a slab and the word *śili* is formed from it by adding the feminine suffix in the diminutive sense. *Śilimukha* thus means an arrow with stone head. This stone was granite. An *adrisāramaya* arrow or arrow having the strength of a stone is also mentioned (Droṇa 17/21). Bhīshma says that the sword was invented when meteors (*ulkā*) were studied.[17] This is likely because the meteors very often contain steel and sometimes an alloy of iron and nickel, i.e. stainless steel. By analyzing the meteor-metal, the method to make steel may have been invented.

It is generally supposed that the method of making steel was hit upon when it was noticed that in the process of purifying the copper iron ore mixed in it, which if mixed with carbon and was found to be very strong. Meteors are very rare to find and therefore the accidental discovery of steel while purifying copper is more likely. But better quality steel was perhaps discovered through the meteors.

Lay readers of the *Mahābhārata* at once think of the *astras* when one talk of the weaponry in the Bhārata War. Claims have also been made that these were like the modern inter-continental missiles and nuclear bombs. But the descriptions clearly show that they were not. They were not manufactured in factories and owned by the kings; they were taught to favourite disciples by the *gurus* and consisted of certain *mantras*. Modern weapons of mass destruction are not activated by *mantras*.

It is sometimes claimed that the science of *astras* was not the modern science of machines but a science based on the magical powers of the sounds used in the *mantras*. This is a mere assertion.

There is no evidence that *mantras* posses any such properties and nobody has ever demonstrated them. Those who make such claims should spend their energies in staging such a demonstration rather than challenging others to disprove their assertion. The *astras* are obviously the product of poetic imagination.

CONCLUSION

The oldest portions of the *Mahābhārata* indicate that the Bhārata War was fought with copper, stone, horn and nail weapons. This corroborates the astronomical evidence that the war was fought sometime around 3101 BC.

NOTES AND REFERENCES

The *Mahābhārata* quotations are from the southern recension. The weapons mentioned have been referred to in hundreds of places but only one or two references are regarded sufficient. Abbreviations: BVP = *Bhīshmavadhaparvan*, JVP = *Jayadrathavadhaparvan*, DVP = *Droṇavadhaparvan*, KVP = *Karṇavadhaparvan*, SVP = *Śalyavadhaparvan*.

1. P.V. Holay, The Year of the Kaurava-Pāṇḍava-War, See *Supra* No. 5 – Ed.
2. कौमुदे मासि रेवत्यां शरदन्ते हिमागमे। भगवद्यानपर्व
3. प्रतिश्रवणपूर्वाणि नक्षत्रणि चकार ह। अश्वमेधपर्व 44/2 आदिपर्व 71/34
4. एडूकचिह्ना पृथिवी न देवगृहभूषिता। वनपर्व 109/68
5. .... गदाशक्तिधरास्तदा।
   एकः खड्गधरो धीरः समेंर्थः प्रतियाधितुम्।। 145/41/44
6. आधूतां भीमसेनेन गदां दृष्ट्वा सुयोधनः।
   अद्रिसारमयीं गुर्वी आविध्यन्बह्वशोभत।। शल्यपर्व अ 51/75
7. अथ कोशाद्विनिष्कृष्य खड्गं भूरिश्रवाःशितम।
   मूर्धजेषु च जग्राह पदा चोरस्यताडयत्।। जयद्रथवधपर्व 121/44
8. विकृष्य पार्श्वतः खड्गं केशपक्षे परामशत्। द्रोणवधपर्घ 160/39
9. इत्येवमुक्तवा खड्गेन केशवस्य समीपतः।
   आभिसृत्य शिरस्तस्य चिच्छेद कृतवर्मणः।। मौसलपर्व 3/29
10. ततो विक्षिपतः खड्गं सौभद्रस्य यशस्विनः।
    शरावरणपक्षान्ते प्रजहार जयद्रथः।।
    रुक्मपक्षान्तरे सक्तस्तस्मिंश्चर्मणि भास्वरे।
    सिन्धुराजकरोद्धूतः सोभज्यत महानसिः।।
11. शिखण्डी तु ततः खड्गं खण्डितं द्रौणिसायकैः।
    आविध्य व्यसृजत्तूर्ण द्रोणपुत्राय वेगतः।। भीष्मवधपर्व 77/37
    तमापतन्तं सहसा कालानलसमप्रभम्।
    शरैरचूर्णयद्द्रौणिर्दर्शयन् हस्तलाधवम्।। भीष्मवधपर्व 77/38

12. Researches into the much greater and persisting problem of Copper Hoards date back to 1822 when a harpoon was first discovered at Biṭhūr in Kanpur district of Uttar Pradesh. Since then there have been many finds, in groups as well as sporadically, of these objects, those in groups being rightly described as Hoards. They are made of almost 98% pure copper including some usual and other strange objects mostly found in the Gaṅgā valley in North India, the important regions being those covered by the present states of Uttar Pradesh, Bihar, Bengal, Orissa, Madhya Pradesh and Rajasthan. Kallūr in Karnataka has also yielded a solitary tool. As of now we have some ninety sites yielding nearly a thousand artifacts, Guṅgeriā (Madhya Pradesh) alone giving as many as 424 objects. The implements include celts – flat, shouldered and bar, rings, harpoons, anthropomorphic figures, *paraśu*-like double axes and antennae-hilted swords. The dates for these objects range between about 2800 BC [as at Gaṇeśvar in Rajasthan where a copper hoard was found in association with ochre-coloured ware (OCP)] and 1400 BC. Some scholars reject the association of the OCP as in its so-called original home it is dated in the time-bracket 1700-1400 BC.

    As regards the copper weapons supposedly used in the Mahābhārata war, some scholars are of the opinion that the antennae-hilted swords of the Copper Hoards were largely employed in this war. Some even suggested that the weapons, being of copper which is very soft metal, were very short and the antennae-hilted swords fit into that category. However, the fact is otherwise. The antennae-hilted swords are as long as 78 cm with 72 cm for short double-edged blade and 6 cm for the hilt (e.g. from Fatehgarh, Uttar Pradesh). It is wrong to say that the hilts of these swords are longer than the blade. The shortest of the antennae-swords measures 40 cm long with a 5 cm hilt. Even the hooked spearhead measures 32.5 cm with a 10 cm long hilt (Sarhauli, Uttar Pradesh) – Ed.
13. D.P. Agrawal, *Copper and Bronze Age of India*, p. 12.
14. D.P. Agrawal, *Indian Bronze Age Cultures and their Metal Technology*, p. 257.
15. A standard *Aṅgula* is commonly taken to denote ¾ of an inch – Ed.
16. According to ancient Indian writers, *Maṇḍalāgra* is a kind of sword with a rounded tip. It finds mention in the *Arthaśāstra* (II. 18) of Kauṭilya, Varāhamihīra's *Bṛihat-saṁhitā* (XLIX. 7) and the *Navasāhasāṅka-charita* (I. 74) of Padmagupta.
17. पेतुश्चोल्का महोत्पाताः शाखाश्च ममृदुर्द्रुमाः ।
    ततस्तद्रूपमुपमुत्सृज्य बभौ निःस्त्रिंश एव सः ।। शान्तिपर्व 145/41/44

8

Possible Location of Kāmpilya in the *Mahābhārata*

K.M. Srivastava

Kāmpilya is well known as one of the important capitals mentioned in the great epic *Mahābhārata*. The whereabouts of this capital according to certain scholars, were not identified for certainty in spite of the fact that there is an important brisk town called Kāmpilya in Farrukhābād district of Uttar Pradesh about sixteen kilometres north-west of the commercial centre of Kaimganj, a railway station on the Kasganj-Kanpur section of North-Eastern Railways.

Kāmpilya finds mentions in *Aitareya Brāhmaṇa*[1] with two kings of the state having universal fame, besides the *Mahābhārata*. In the *Mahābhārata*, in addition to other references, the place is known as the seat of King Drupada, father of Draupadī. The South Pāñchālas also had their capital at Kāmpilya.[2] The Pāñchālas occupied the country to the east of the Kurus between the mountains and the Ganges. Ahichchhatrā in Bareilly district of Uttar Pradesh happened to be the capital of North Pāñchālas.[3] River Ganges was the dividing line between the two territories. As at present, the ancient site of Kāmpilya was an important pilgrimage centre of the Jaina devotees, with Lord Mahāvīra having visited it. The place is also believed to be the birth and enlightenment place of the thirteenth Jaina *tīrthaṅkara*.[4]

In spite of the fact that the massive mound of Kāmpilya yielded the Painted Grey Ware (collected earlier also in 1961-62), said to be the *Mahābhārata* pottery, the small-scale excavations in 1975-76 conducted by K.K. Sinha could not finally identify its location. The location of the place was rendered doubtful by some of his specific statements. He said, "The Painted Grey Ware deposit above the natural soil exposed in a limited area, is 2.40 m in thickness. The debris overlying this deposit belongs to the late medieval period".[5] However, there are two very significant observations presented by him, on the basis of which far-reaching conclusions could be drawn. They are, "However, a drop of approximately 3 m from the centre of the mound was noticed between KPL 2 and KPL 4. An interesting feature of the ancient settlement was a mud embankment rising to a height of 1.70 m."[6] Both the statements are a clear-cut indication of heavy floods and destruction thereby in the area.

Certain scholars from Italy were attracted by the final solution of the problem of the location of Kāmpilya. As a sequel they accepted the invitation of the local Pāñchāla Research Institute. On the basis of the first field survey by them, one of the students of the University of Venice was asked to prepare a thesis on the problem of the discovery of Kāmpilya. The conclusions drawn by Sinha regarding late deposits were corroborated by the student. An expedition was thereafter organized by the above mentioned scholars in pursuance of the solution of the same problem in February 1996 with assistance of the photo prints prepared through remote sensing imagery of the Kāmpilya area. The expedition came across a vast site of ruins, about five kilometres westward from the town of Kāmpilya. The results of the discovery were published in the *Bulletin of the University of the Venice*[7] and in the *Journal of the Italian Embassy in India*.[8] Again, a subsequent expedition was undertaken in February 1997. During the course of this work, the team came across a big fortified town, with the walls measuring 780 m x 660 m orienting towards the points of the compass. On January 7, 1998, the discovery was officially presented in the Rashtrapati Bhavan in collaboration with the Director-General, Archaeological Survey of India, late Shri Ajay Shankar, and the Dean of the Faculty of Fine Arts, Banaras Hindu University, Prof. Srivastava, in the presence of the Italian Prime Minister, Prof. R. Prodi, and Indian Minister for Human Resources Development, Shri S.R. Bommai.[9]

With promising results of the first two expeditions, a third expedition by the Italian team was launched subsequently in January 1998. During the course of this campaign, the importance of the archaeological site, famous locally as Drupada Kilā, was confirmed. The antiquity of the site was evaluated in detail on the basis of the remains available there. According to the observations of the team, the bricks and terracotta fragments scattered on the surface could be assigned a date varying between the sixth century BC and the first century AD.

On the basis of the evidences collected by the Italian team during the course of the three expeditions, it was decided to launch a Kāmpilya Excavation Project with a view to ascertain the date of the locally famous Drupada Kilā and ultimately to determine the remains of Kāmpilya mentioned frequently in the *Mahābhārata*. The team requested various institutions in India for assistance in the work. The request was accepted by the Indian Archaeological Society, New Delhi, which entered into an agreement. The license to undertake excavation in the area was obtained by the society and the author, being the Vice Chairman of the Institution, had the privilege of participating in the work along with K.N. Dikshit, General Secretary, who happened to be the leader of the Project.

The Drupada Kilā site (lat. 27°36′ 13″ N – long. 79°12′30″ E) spreads over 9,00,000 m within a fortification wall visible on the surface from a long distance and made of brick bats. The sides of the fortification wall in a rectangular shape measure 780 m x 660 m with the longer axis oriented east-west. The average width of the wall in its visible parts is about 350 cm (with a maximum of about 500 cm) which stood upon an earlier mud structure. There are hardly any traces either of towers or ramparts at regular intervals. A wall head on the western side having some gaps in the structural activity with varied thickness of wall on the northern side lead to the presumption of entrance to the fortification. There are no walls at the north-eastern corner for about 100 m in both directions. This is probably due to erosion, collapse or removal caused by destructive floods and robbing activity of the local residents. The size of the bricks used in the wall was around 25 to 30″ x 40 to 45 x 55 cm.

A town with a surface of 50 hectares existing about the end of the first millennium BC in Doab, was no doubt an important settlement, though not so important as to become a capital under normal circumstances. The capital should have been at least ten times larger than most important towns, besides essential services. There was a great disparity between this and other capitals at the time, viz. Śrāvastī, Kauśāmbī, Mathurā, etc. Drupada Kilā could therefore be treated as a big town in Pāñchāla region, which was still unknown.

The cultural deposit within the Drupada Kilā happened to be about 5 m in the northern parts, while to the south the same is a little less. As it appeared on the surface, the inhabited area within the Kilā was built most probably of unbaked bricks. In some parts of the mound to the east, remains of a few burnt brick buildings were noticed.

During the course of the limited excavations it was very surprising to observe that the earliest occupation in the area could not be pushed back to times earlier than second century BC.

In view of the evidences of a later date along with no indications of the times of the *Mahābhārata*, it was decided to explore the surrounding areas of Kāmpilya town itself, where limited excavations were conducted in 1975-76. The busy town of Kāmpilya is situated along a massive mound with about 6 m cultural deposit over alluvial plain. This oval mound (700 m x 300 m long) is located along a scarp that dips suddenly to a plain. On the eastern side of the mound, under the steep slope lies the ancient course of the Ganges, (Būṛhī Gaṅgā, a channel of the Ganges), an abundant meandering course which is at present reduced to a small swamp, 140 m wide, along which there are bathing *ghāṭs* of the 16th century. The main river, that now flows 4 km farther to the north-east, must have changed its course. In addition, there are remains of a rectangular pond provided with steps for ablutions, which is called Draupadī Kuṇḍ. The north-eastern fringe of the mound is surmounted by two buildings of which the first is a little temple locally known as the place of *Ṛishi* Kapila. The second building has been recently restored and encloses the sanctum of a *Śivaliṅga*. The temple stands on a *dharmaśālā* and an annexe which is under the occupation of a *pujārī*. The local folks on the basis of tradition assert that Draupadī Kuṇḍ is the pond from which Draupadī emerged as a young girl seated on a lotus with a miraculous *liṅga* in her hand. This is an episode of the *Mahābhārata*, which occurred in Kāmpilya and is recognized by the local people. On the south-west extremity of the mound, walls of fortification of Kāmpilya, capital of South Pāñchāla appear. In addition, there are two temples of Jaina identity, one dedicated to Śvetāmbara and the other Digambara on the western end of the mound.

As already established by the excavators earlier, fragments of Painted Grey Ware and Nothern Black Polished Ware were scattered on the surface at Kāmpilya. A close study of the steep section near the channel of the river revealed that the successive occupations of the Painted Grey Ware and the Northern Black Polished Ware were subjected to heavy floods. As a sequel to the destruction by the devastating floods, the inhabitants resorted to safety measures. High mud platforms were raised to construct the dwellings and other structures over them. Sinha had come across such a platform during the course of his limited excavation, though he could not determine the purpose at that time. He, however, made an indirect reference to it in his sketchy report. He said, "An interesting feature of the ancient settlement was a mud-embankment rising to a height of 1.70 m." Similarly, there is a connected reference to floods as well. He said again, "However, a drop of approximately 3 m from the centre of the mound was noticed between KPL 2 and KPL 4." The conclusions drawn by Sinha regarding late deposits are also significant enough. When there will be recurrent floods there are bound to be a mixture of deposits in which the later ones will be more prominent.

In the sharp cutting of the section, mixture of washed flood deposits can be easily observed. Eroded material along with the occupational deposits are clearly visible in the steep cutting. They can be easily extracted by a soft scraping. Further, at the end of the mound, huge dressed stone boulders are found peeping out of the deep occupational deposit. They appear to be part of a fortification, though the exact time of its construction could not be assessed without proper excavation.

All the above mentioned indications lead to a strong assumption that the ancient mound near the modern town of Kāmpilya was the Kāmpilya of the *Mahābhārata* times. The fury of devastating recurrent floods led not only to its desertion in epic times but also rendered the establishment very poor. Thereafter the entire occupation was shifted to the present fortified area of Drupada Kilā. It was only on this account that the occupation at Drupada Kilā could not be pushed beyond second or third century BC. The antiquities from the excavation at Drupada Kilā, therefore, were also very poor. The present Kāmpilya has been identified by earlier archaeologists as well to be the original

Kāmpilya of the *Mahābhārata*. It is, however, established firmly by proper excavations.

Floods have been of quite a common occurrence in this part of the Gaṅgā valley. The area should be thoroughly explored in the light of the occupations during the time of Painted Grey Ware and subsequent times. A vast land of flooded area can be viewed from the top of the ancient mound at Kāmpilya. Beyond this land a very promising Painted Grey Ware site, viz. Bargain, is situated. With the aid of extensive explorations in the area and spotting of new sites, a very interesting story of the entire Kāṃpilya land is likely to emerge. In the light of the supposed shifting of capital from Kāmpilya to Drupada Kilā, attention of the scholars maybe invited to the important ancient site of Hastināpura, another important *Mahābhārata* town in Uttar Pradesh.

Further, it maybe pointed out that the chemical analysis of the soils in the adjoining area by a geologist has indicated that all the Painted Grey Ware sites in the region are located in the older alluvium level whereas the later sites were all located in the younger alluvium level.

NOTES AND REFERENCES

1. *Aitareya Brāhmaṇa*, VIII, 23.
2. K.C. Jain, *Lord Mahāvīra and His Times*, New Delhi, 1974, p. 49.
3. *Ibid.*
4. *Ibid.*, pp. 51-52.
5. *IAR*, 1975-75, pp. 51-52.
6. *Ibid.*
7. "Cervanda Kāmpilya", *Asiatica Venetiana*, 1, 1996.
8. "Kāmpilya Rediscovered", *Journal of the Italian Embassy in India*, 5, Sept.-Oct., 1996.
9. *Kāmpilya: Quest for a Mahābhārata City*, Venetian Academy of Indian Studies, Series 2, New Delhi, 1999, p. 10.

9

Some Ancient *Janapadas* of Uttarāpatha vis-à-vis the *Mahābhārata*

Devendra Handa

The *Rāmāyaṇa* and the *Mahābhārata* may be regarded as the foundation supporting the edifice of the Hindu culture. To call them as mere epics or to compare them with the epics of the West is not justified because of their unique influence on the people through the ages.

The *Mbh.* dealing with the family feud resulting in the overthrow of the Kauravas by the Pāṇḍavas, forms the nucleus which assumed the present form by periodical additions of different kinds, making it a compendium of the fourfold aims of human existence and encyclopaedic in nature.

> *Dharme hyarthe cha kāme cha mokshe cha bharatarshabha /*
> *Yadihāsti tadanyatra yannehāsti na tat kvachit //*

Dharma, Artha, Kāma and *Moksha* are in fact the four crucial points round which revolves the Indian life. The *Mbh.* contains all that is worth knowing-

> *Sāṅgopanishadāṁśchaiva vedānāṁ vistara-kriyā*
> *Itihāsa-purāṇānāṁ unmesha-nimeshaṁ cha yatra /*
> *Chāturvarṇya-vidhānaṁ cha graha-nakshatra-tārāṇām*
> *Pramāṇaṁcha mayā atra sthāpitam //*

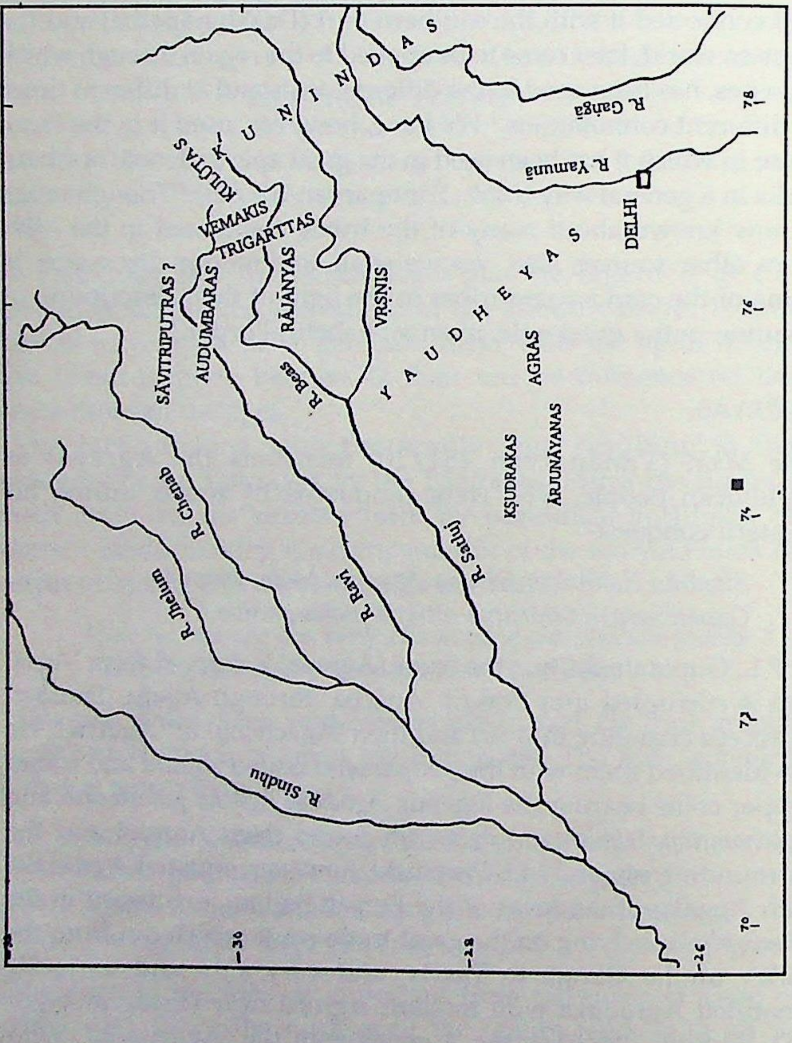
A study of the *Mbh.* is important from the point of view of history also. Since the nucleus of the family feud, with all its additions and interpolations, developed into an account of a great war in which practically all the peoples and potentates of the period took part, siding either with the Kauravas or the Pāṇḍavas, we get a lot of information regarding various *janapadas* which participated in the Mahābhārata War or have just incidentally been mentioned (see Appendix). The present paper deals with some tribes (*janapadas*) of the Uttarāpatha which find mention in the *Mbh.* and have also issued coins (for the location of these tribes see Maps 1&2). The name Uttarāpatha, literally meaning 'the northern route', i.e. the trade route which passed through northern India and connected it with the southern part (Dakshiṇāpatha) and the western world, later came to be applied to the region through which it passes, has been used in the different texts and at different times in different connotations.[1] We have, however, used it in the same sense in which it has been used in the great epic to denote northern India in a general way (*Mbh.*, Śāntiparvan 207/43).[2] Though much is now known about many of the tribes mentioned in the *Mbh.* from other sources also, yet we shall confine our discussion to some of the coin issuing tribes in the light of their description or mention in the great epic, in an alphabetical order.

ĀGREYAS

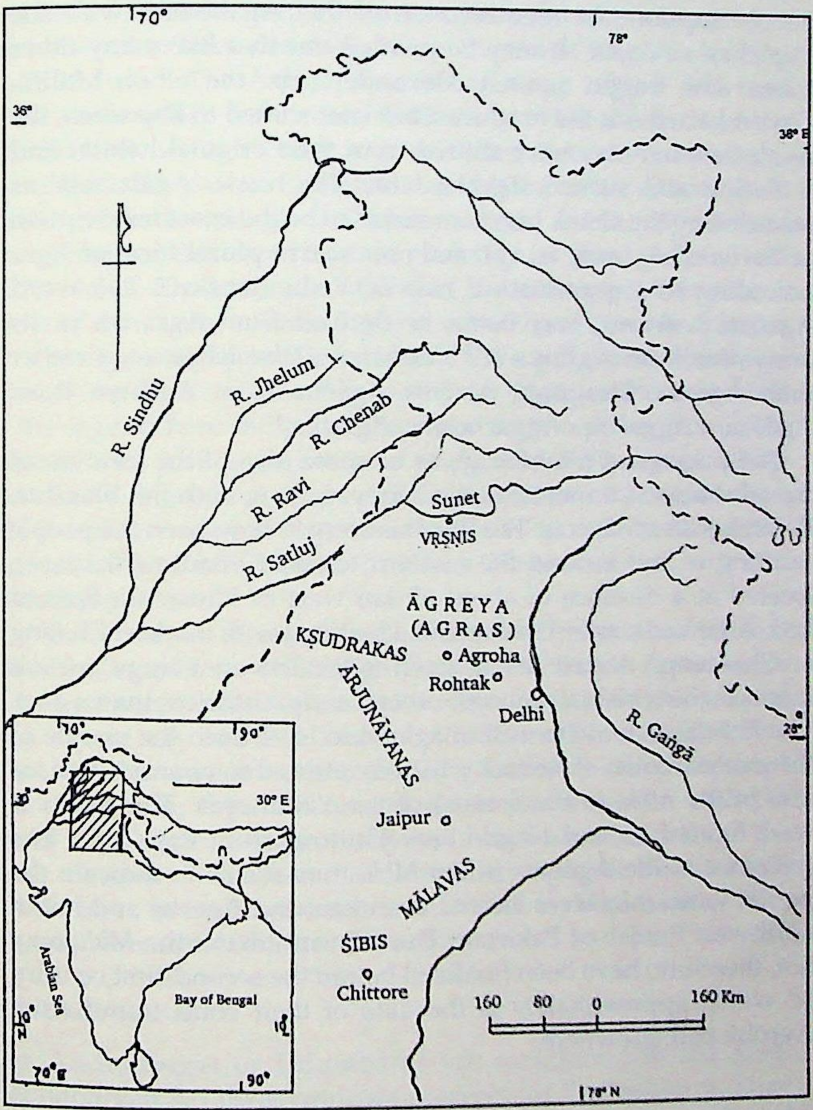
The *Mbh.* (Vanaparvan 254/20) mentions the Āgreyas as republican people, who were conquered by Karṇa during his western conquest-

> *Bhadrān Rohitakāṁśchaiva Āgreyān Mālavānapi /*
> *Gaṇān sarvān vinirjitya nītikṛit prahasanniva //*

P.L. Gupta thinks that the name 'Āgreya' is derived from 'Agra' and is corrupted into Prakrit 'Agācha' through Agajja (Sanskrit suffix *eya* changing into *jja*) and then 'Agachcha' or 'Agācha'. He has identified them with the people who issued square and round copper coins bearing the legends *Agodaka Agācha Janapadasa* and *Agāchamitapadabhish (ṭh) āyina[ḥ]**, found from Agrohā and the surrounding region.[3] M.J. Przyluski, however, equated Agrodaka with Aggaḷapura, a town of the Punjab region, mentioned in the *Vinayapiṭaka* as lying on the great trade-route which ran from the valley of the Gaṅgā to Taxila, and very ably and correctly identified Agrodaka with modern Agrohā near Hissar in 1926.[4] L.D. Barnett[5] identifies the Aggalas with the 'Agalasseis', who, according to the Greek historian Diodorus, were living in the neighbourhood of the Siboi (Śivas, Śibis) of the Jhang district (now in Pakistan), and who, according to Quintus Curtius, gave a very stiff resistance to Alexander. Bela Lahiri thinks that "since Agrohā


KUNINDAS
KULŪTAS
VEMAKIS
TRIGARTTAS
SĀVITRIPUTRAS ?
AUDUMBARAS
RĀJANYAS
VṚṢṆIS
YAUDHEYAS
AGRAS
ĀRJUNĀYANAS
KṢUDRAKAS
DELHI
R. Gaṅgā
R. Yamunā
R. Beas
R. Satluj
R. Ravi
R. Chenab
R. Jhelum
R. Sindhu
78
76
74
72
70
30
28
26

Map. 1 Location of Some North Indian *Janapadas*


70°
78°
36°
38° E
R. Sindhu
R. Jhelum
R. Chenab
R. Ravi
R. Satluj
Sunet
VṚṢṆIS
ĀGREYA
(AGRAS)
KṢUDRAKAS
Agroha
Rohtak
ĀRJUNĀYANAS
Delhi
R. Gaṅgā
28°
Jaipur
MĀLAVAS
ŚIBIS
Chittore
160 80 0 160 Km
78° N
70°
90°
30°
30° E
Arabian Sea
Bay of Bengal
10°
10
70° E
90°

Map. 2 Location of Some Ancient Indian *Janapadas* (in the Hissar District) is far separated from Jhang, the identification of the 'Agalasseis' with the legends seem to be doubtful".[6] P.L. Gupta, however, thinks that the legends among the Agrawal community of a struggle between Alexander and the Agrohā people support the identification of the 'Agalasseis' with the 'Agāchas' of coins.[7] It may be pointed out that like many other tribes who fought against Alexander (viz. the Siboi, Malloi, Oxydrakai, etc.) in the northwest but later shifted to Rajasthan, the Agalasseis too may have shifted from their original habitat and settled at and around Agrohā later. The name 'Agalasseis' as recorded by the Greek historian seems to be the exact transciption of the word *Agrāsaḥ*, an optional nominative plural form of Agra according to a grammatical rule of Vedic Sanskrit. The word Agacha, however, may better be derived from Agra-tya or its derivative form Āgrātya (*Cf. Pāśchātya, Dākshiṇātya*, etc.) rather than Āgreya. Dasgupta derives Agācha from Agratya thus: Agācha < Aggacha <Aggachcha < Agratya.[8]

The passage of the *Mbh.* gives us some idea of the location of the tribe also as it mentions the Āgreyas along with the Bhadras, Rohītakas and Mālavas. The Bhadras seem to have been the people residing at and around the modern town of Bhadra (Bhādarā), located at a distance of about 65 km west of Hissar on the old bed of the Vedic river Dṛishadvatī, identified with modern Chiṭāng or Chauṭāng.[9] A part of the town is located on a huge ancient mound which yields, amongst others, early historic remains also. The Rohītakas may be well imagined to have been the people of the modern town of Rohtak which is referred to at another place also in the *Mbh.* in the context of the Yaudheyas. The Mālavas were located around Nagarī near Chittorgarh in Rajasthan. The reference to the Āgreyas in the *Mbh.* thus seems to indicate the period when they were located at and around Agrohā and not in northwest Punjab of Pakistan. The relevant text of the *Mbh.* may not, therefore, have been finalized before the second-first century BC which approximately is the date of their coins found from Agrohā and elsewhere.

ĀRJUNĀYANAS

The Ārjunāyanas have been mentioned in Pāṇini's *Gaṇapāṭha* and then in Samudragupta's Prayāga *praśasti* along with the

Yaudheyas, Mālavas, Prārjunas etc.[10] J.F. Fleet held that the Ārjunāyanas may have been connected with the Pandoouoi or Pāṇḍava tribe of Punjab mentioned by Ptolemy.[11] Some other scholars also believe that, as their name indicates, they may have descended from the third Pāṇḍava Arjuna, just as the Yaudheyas are believed to have descended from the eldest Pāṇḍava brother Yudhishṭhira.[12] The Ārjunāyanas issued some copper and base silver coins which have come down to us.[13] On the basis of the distribution of their coins it is surmised that they may have occupied some part of Rajasthan near Mathurā[14] [J. Allan placed them 'within the triangle Delhi-Jaipur-Agra' and mostly scholars have accepted this view] or most probably an area near Mathurā to the Nohar-Bhadra region of district Ganganagar of Rajasthan.[15] Some of their coins contain legends which have been deciphered as '*Ārjunāyanānāṁ jaya Bhadrarāmasa*'.[16] We feel that the intended legend was *Bhadrārāmasa Ārjunāyanānāṁ jaya* and the first word of the legend here indicated the name of the capital city of the Ārjunāyanas just as in the case of Agra and Śibi coins which contain the legends *Agodaka Agācha janapadasa* and *Majhimikāya Śibi-janapadasa* respectively, and thus refer to their metropolises Agrodaka and Majhamikā (modern Nagarī near Chittor in Rajasthan).

It is, however, strange that a tribe which finds mention in Pāṇini's *Gaṇapāṭha* and Prayāga *praśasti* and whose name seems to be connected with Arjuna, has neither been mentioned in the *Mbh.* nor in any of the Purāṇas. Is it not possible then that they were better known after their chief city and were called Bhadras? The verse from the *Mbh.* quoted above in connection with the Agras and their contemporaneity with them seems to point in the same direction.[17] They are also identified with the Bhadrakāras which have sometimes been mentioned as Madrakāras. The Madras were divided into various branches.[18]

AUDUMBARAS

The Audumbaras or Udumbaras are mentioned in the *Mbh.* (Sabhāparvan 52/13) as bringing presents for Yudhishṭhira. They are known to us from some other literary works and a number of their copper and very few silver coins issued by their kings Śivadāsa, Rudradāsa and Dharaghosha.[19] The silver coins belong only to the last mentioned ruler. They may be described as follows:

Obverse : Sage Viśvāmitra standing, facing with right hand raised, traces of skin over left arm. Kharoshṭī legend in front *Viśpa/mitra;* around *Mahadevasa raña Dharaghoshasa;* below, Odubarisa.

Reverse : Trident with axe on right; tree in an enclosure on left; Brāhmī legend around *Mahādevasa raña Dharaghoshasa,* below *Odubarisa.*

The portraiture of the sage betrays Greek impact but the label inscription helps us identify the figure satisfactorily. The relationship between the Audumbaras and sage Viśvāmitra was first brought to light by K.K. Dasgupta[20] on the basis of the *Kālikā Purāṇa,* generally believed to have been written between seventh and tenth centuries AD. Ajay Mitra Shastri, however, traced the antiquity to a much earlier period by pointing out three different passages in the *Mbh.* according to which Gādhi's wife had to embrace the *udumbara* (fig) tree before giving birth to Viśvāmitra. The antiquity of the myth, as pointed out by Shastri, can be traced back to a considerably earlier period, though in somewhat different forms. Viśvāmitra belonged to Kuśika *gotra* which was also the *gotra* of the Audumbaras. This *gotra* finds mention in the Vedic texts.[21] Pliny (VI.75) also refers to the Audumbaras as Odombeores on the mouth of the Indus and the Gujarati brāhmaṇas of Kachchh of the Audumbara caste are believed to be their descendants.[22] Probably like many other tribes of the north, the Audumbaras, or probably one of their section, migrated to western India in ancient times.

The tree depicted on the Audumbara coins was conjecturally though correctly identified as fig tree (*ficus glomerata)* by Cunningham,[23] but the story of Viśvāmitra's birth provides certainty to this identification.

The reverse of the square copper coins of the Audumbaras shows a storeyed temple with trident-axe on right. It was referred to as a pointed-roofed temple of two or three storeys with pillars by Cunningham.[24] John Allan took it to be a Buddhist structure – 'two-storeyed domed stūpa'.[25] K.P. Jayaswal described it as a secular structure which represented either the mote-hall of the Audumbaras or some other public building.[26] It was, however, S.V. Sohoni who correctly identified it as a Śaiva temple citing the evidence of Bhāsa's *Pratimā-nāṭaka* and pointed out that the temples of this type were still popular in the Kullu and Beas valleys.[27] A complete absence of such structural temples, belonging to the early historic period, however, indicates that these temples must have been of perishable materials like wood. Since the sacred, thorny, fruit-giving, milky and fragrant trees were not recommended for construction in ancient times, fig wood may not have been used in such temples. It is quite likely that the word *udumbara*, which later became conventional for the door-sill in the construction of temples, was introduced by the Audumbaras.

In a *vṛitti* on Pāṇini's *Ashṭādhyāyī*, Chandragomin gives an important piece of information in a verse in his *Vyākaraṇa* (II. 4, 103) which says :

> *Udumbarās-tilakhalā-madrakārā yugandharāḥ /*
> *Bhuliṅgāḥ śaradaṇḍāś-cha śālvā'vayava-saṁjñitāḥ //*

i.e. the Udumbara, Tilakhala, Madrakāra, Yugandhara, Bhuliṅga and Śaradaṇḍa are the sections of the Śālvas. A passage of the *Mbh.* (II, 48/12) refers to the Audumbaras as *durvibhāgāh-*

> *Kāyavyā daradā dārvāḥ śūrā vaiyāmakāstathā /*
> *Audumbarā durvibhāgāh pāradā bāhlikaiḥ saha //*

Moti Chandra took the word *durvibhāga* in the sense of 'disunited' and as qualifying the preceding word *Audumbarāḥ*. He thus held that the epic passage "may point to the Audumbara connections with the Sālva federation of which the Udumbaras with the Tilakhalas, Madrakāras, Yugandharas, Bhuliṅgas and Śaradaṇḍas were a member."[28] Dasgupta, however, takes the word *durvibhāga* in the sense of 'difficult to be disunited', i.e. strong.[29] The distribution of the Audumbara coins which have all been found from Paṭhānkoṭ, Kāngrā, Jwālāmukhī and Irripal in the present Hamīrpur (old Kāngrā) district indicate that they were a well-knit people living in the neighbourhood of the Vaiyāmakas (Vemakas) whose coins, too, have sometimes been found from that region.

KULŪTAS

The *Mbh.*, the *Rāmāyaṇa* and the Purāṇas mention the Kulūtas under various phonetically similar names like the Ulūtas, Ulūkas, Kolūkas, Kaulutas, Kulatthas, etc. In the Bhīshmaparvan (8/58) they are mentioned as Ulūta and associated with Kashmir, Gandhāra, Abhisāra, etc., whereas at another place in the same parvan (8/64) they are referred to as Kulattha and classed with the Yavanas, Chīnas, Kambojas, Hūṇas and Pārasīkas. Their country has been mentioned in the Karṇaparvan (12/475 & 485). Sabhāparvan (27/5 & 11) refers to the Kulūtas and their king Bṛihanta who was vanquished by Arjuna during his conquest of the quarters –

> *Tairavi sahitaḥ sarvairanurajya cha tān nṛipān /*
> *Kulūta-vāsinaṁ rājan Bṛihantam-upajagmivān //*
> and
> *Kulūtānuttarāṁśchaiva tāṁścha rājñaḥ samānayat*

In the *Vishṇudharmottara Purāṇa,*[30] Bharata is said to have met Kulūtādhipati Jaya between the Vipāśā and the Irāvatī while going to Kekaya from Ayodhyā. The *Rāmāyaṇa* refers to the Kaulūta or Kaulūtaka amongst the western tribes, but the *Bṛihat-saṁhitā* places them in the northeastern division at one place (14/29/30) and in the northwest division at another (24/22). They are mentioned along with the Trigarttas and Chīnas in one place (10/11) and with the Madras in two places (4/22 & 17/18)[31] P.L. Gupta concludes on the basis of these references that, "the people called Kulūta were divided into two distinct groups: one existed in the Himalayan region close to Trigarta and the other in the Punjab in the neighbourhood of Madra."[32] It may be pointed out that the Trigarttas and the Madras were probably neighbours in ancient times and the references to the Kulūtas living in the neighbourhood of Trigarttas and the Madras should not be interpreted in terms of two different people bearing the same name.

Coins and literary works like the *Bṛihat-saṁhitā, Kādambarī, Bālabhārata,* etc., leave little doubt to their exact name having been Kulūta. About a dozen copper coins of the Kulūtas are known to us. The first one, a round copper coin of Vīrayaśas (now in the British Museum, London), was published by Cunningham, but unfortunately he did not record the provenance of his coin.[33] Later, eleven square copper coins were obtained by Marshall[34] in his excavations at Sirkap (Taxila). They belong to Vīrayaśas, Vijayamitra, Satyamitra and Āryamitra. It was, however, Bergny who read the name of the tribe as Kulūta correctly on these coins.[35] P.L. Gupta thinks, "Since these coins were found in archaeological excavations and their provenance is beyond doubt Taxila, it can be said that these Kulūta rulers existed in the Gandhāra region. They were, most likely, the ones who are mentioned in the *Mahābhārata* and the Purāṇas. They had perhaps little to do with the normal type Himalayan region".[36] But since the name of Vīrayaśas is found on the British Museum as well as the Taxila coins P.L. Gupta states further that, "we are inclined to surmise that the Kulūtas originally inhabited the Gandhāra region, probably not far from Madra. Later when the local tribes of the Punjab were hard pressed by the foreign invaders – Indo-Greeks or Śaka-Pahlavas – the Kulūta people, in all likelihood, moved to the Himalayas and established a new kingdom in the area which is now called Kūlū (sic). This perhaps took place in the time of Vīrayaśas".[37] If it is to be believed we would have to establish the precedence of the coins of the Taxila type over the British Museum type. This has not been done by anyone yet. We have already seen above that the Kulūtas mentioned along with the Trigarttas and the Madras at two different places may have actually been the same people. The great scholar seems to have very conveniently forgotten that Taxila was a great centre of art, culture, trade, education, etc. and coins from one region or place could go to such centres with traders or travellers. In literature we find enough of evidence to take them as mountainous people rather than belonging to a place like Taxila. If the similarity of name of Kṛishṇayaśas of the Kanhiara biscriptual (Brāhmī and Kharoshṭī) inscription,[38] only about 20 kilometres east of Kāngrā, holds any validity in this connection, it, too, points to the mountainous region being the original habitat of these rulers. Both, the coins and the *Mbh.*, indicate the Kulūta to have been a monarchical state.

Kulūta may not have been a very big and/or powerful state in ancient times and may have been forgotten soon. This may be the reason that when the epic and Paurāṇic accounts of their existence were added to them, not much was known about them, not perhaps even about their exact name. This would indicate that the passages of the *Mbh.* referring to them were interpolated much after their coin issuing stage, i.e. *circa* second century AD.

KUṆINDAS

The Kuṇindas have been mentioned in the *Mbh.* at several places, sometimes under phonetically variant names. At one place they are mentioned along with the Paiśāchas, Ambashthas and Barbaras, all described as mountainous people (VII. 119, 14) while at another place (*Mbh.*, II. 48, 3-4) they are referred to as cattle rearing and extracting *paipīlika* gold, which they sent to Yudhishṭhira at the time of his *rājasūya* along with other people –

Khaśa ekāśanā jyohāḥ pradarā dīrgha-veṇavaḥ /
Paśupāścha kuṇindāścha taṅgaṇāḥ paratangaṇāḥ //
Te vai pipīlikaṁ nāma varadattaṁ pipīlikaiḥ /
Jātarūpaṁ droṇameyamahārshuḥ puñjaśo nṛipāḥ //

Arjuna is stated to have conquered the Kuṇinda country and rendered the Kuṇindas as soldier-less (*ibid.*, II. 23, 13-14) –

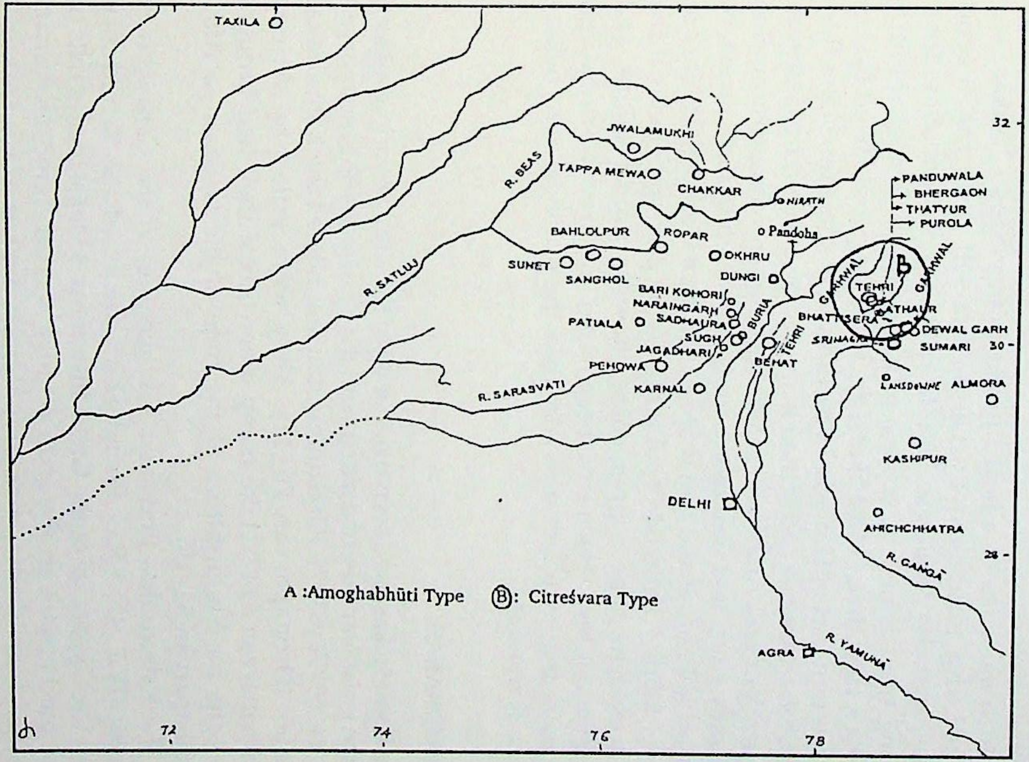
Pūrvaṁ Kuṇinda-viashaye vaśe chakre mahīpatīn /
Dhanañjayo mahābāhurnātitīvreṇa karmaṇā //
Ānartān-kālakūṭāṁścha Kuṇindāṁścha vijitya saḥ /
Sumaṇḍalaṁ pāpajitaṁ kṛitavānanusainikam //

Hundreds of their groups in the Himalayas and their king have also been mentioned in the *Mbh.* (II.141, 25-26) –

Kirāta-taṅgaṇākīrṇaṁ kuṇinda-śata-saṅkulam /
Himavatymarairjushṭaṁ bahvāścharyasamākulam //
Subāhuśchāpi tān dṛishṭvā pūjayā pratyagiṛhṇata /
Vishayānte kuṇindānāmīśvaraḥ prīti-pūrvakam //

Their mountainous habitat and their riches are attested to by other literary works also. The distribution of their coins from Kāngrā in Himachal Pradesh to Kāshīpur in Uttaranchal (Map 3) pinpoints their territory in the Siwāliks and corroborates the evidence furnished by the *Mbh.* that they were '*Parvata-vāsa-nitya*'.

The Lord of the Kuṇindas mentioned in the *Mbh.* (III.141,26) has not been referred to by his personal name though we get the name of Amoghabhūti on their coins. There has been some controversy whether Amoghabhūti is a personal name or a title. Rajendralal Mitra interpreted *Amoghabhūtisa* as a title meaning 'of unflinching faith'[39] and K.P. Jayaswal took it as an official title meaning 'of unfailing prosperity'.[40] P.L. Gupta holds that :


TAXILA
JWALAMUKHI
TAPPA MEWA
CHAKKAR
R. BEAS
NIRATH
PANDUWALA
BHERGAON
THATYUR
PUROLA
BAHLOLPUR
ROPAR
Pandoha
OKHRU
SUNET
SANGHOL
DUNGI
R. SATLUJ
BARI KOHORI
NARAINGARH
PATIALA
SADHAURA
SUGH
JAGADHARI
BURIA
PEHOWA
R. SARASVATI
KARNAL
TEHRI
BEHAT
GARHWAL
GARHWAL
B
TEHRI
BATHAUR
BHATTISERA
SRINAGAR
DEWAL GARH
SUMARI
32
30
28
LANSDOWNE
ALMORA
KASHIPUR
DELHI
AHICHCHHATRA
R. GANGĀ
AGRA
R. YAMUNĀ
72
74
76
78
A :Amoghabhūti Type
Ⓑ: Citreśvara Type

Map. 3 The Kuṇindas: The Distribution of their Coins

The term Amoghabhūti stands for Śiva. It needs (sic) not be said that Amogha and Bhūti, are the two names of Śiva. The two names are put together to highlight his two aspects. The entire legend on the coins may well be compared with the legend *Bhagavata Mahādevasa* on the Vemaki coins. The legend here conveys 'the god Śiva, the king of the Kuṇinda people'.[41]

But some coins of a hoard found from village Chakkar near Mandi and published by Gupta himself bear the legend *Maha(ā)ra(ā)jasa Ama(o)ghabhu(ū)tis [y˙]a* leave little doubt to their having been issued by a king of the name of Amoghabhūti.[42] Gupta's view that, "Most likely, the Kuṇinda people lived first in the western part of Himachal Pradesh and at some time later they migrated to the east and settled in the region covered by Garhwal, Saharanpur and Ambala"[43] is also based on a wrong assumption that only silver and neat fabric coins have been found in western Himachal Pradesh and that those found from Garhwāl, etc., are of coarse fabric.[44] I also don't subscribe to the general belief that the Chitreśvarna type copper coins showing unicephalous and tricephalous Śiva which have been found only from Garhwal and are more than two centuries later than the Kuṇinda coins belong to the Kuṇindas.[45]

KSHUDRAKAS

The Kshudrakas have been mentioned in the *Mbh.* at various places. In the great war they had sided with the Kauravas (Bhīshmaparvan 51/16; 59/76; 87/7). Paraśurāma had annihilated the Kshudrakas earlier (Droṇaparvan 70/11). They were killed by Arjuna (Karṇaparvan 5/47). Like many other tribes, they had brought presents for Yudhishṭhira at the time of his *rājasūya* sacrifice (Sabhāparvan 52/15).

The Kshudrakas find their first mention in the *Gaṇapāṭha* of Pāṇini (IV.2, 45).[46] R.G. Bhandarkar[47] identified the Kshudrakas with the Oxydrakai of the Greek historians.[48] Megasthenes tells us that the Persians in the sixth century BC had 'hired mercenary troops from India, namely, the Hydrakes (Oxydrakai = Kshudrakas)'.[49] This statement is repeated by Arrian also.[50] Evidently, the Kshudrakas had achieved rather an international reputation as extraordinarily brave people in the sixth century BC, so that even an alien ruler was tempted to hire them to accomplish his military designs. The *Mbh.* also depicts them as brave warriors. Even in the fourth century BC, they were one of the most powerful republican states whom Alexander met during his retreat down the Indus. They lived to the northeast of the Mālavas, the Malloi of the Greek historians, who dwelt on the Hydaspes, i.e. on the Jhelum below its confluence with the Chenāb.[51] The *Mbh.* (Vanaparvan 52/15) also refers to them along with the Mālavas. They had formed a league with the Mālavas and gave a very stiff resistance to Alexander.[52] Patañjali (I.32; I.83; II.412) seems to give the Indian version of their fight when he says that they alone came out victorious – *Ekākibhiḥ Kshudrakairjitam*, while the Greek historians talk of a treaty between them and Alexander. Since the Kshudrakas are not traceable in the subsequent centuries, it is believed that they were amalgamated with the Mālavas, probably during their migration from the Punjab to eastern Rajasthan[53] which had begun during the Indo-Greek occupation of the Punjab and probably continued down to the Scythian conquest.[54] The discovery of their copper coins bearing the Brāhmī legend *Kshudrakānāṁ Jaya* from Pāṇḍusar in the Nohar tahsil of district Gangānagar in Rajasthan, however, proves beyond doubt that they had moved to that region from their original home and set up an independent republican state in northern Rajasthan during the second century BC.[55] Their mention along with the Yaudheyas, Lalitthās (Kuṇindas ?) and the Uśīnaras in the Karṇaparvan (*Mbh.* VIII. 4,46) indicates that the relevant verse of the *Mbh.* was composed before they settled in Rajasthan.

MĀLAVAS

The *Mbh.* tells us of a hundred sons of King Aśvapati of Madra begotten from his queen Mālavī as a result of the boon obtained by Sāvitrī from Yama (Vanaparvan 297/59-60). They were all destined to rule for a very long time. The Mālavas are referred to as an important *janapada* of India (Bhīshmaparvan 9/60, 62). The Mālavas are said to have been vanquished by Nakula (Sabhāparvan 32/7), Karṇa (Vanaparvan 254/20), Kṛishṇa (Droṇaparvan 11/17), Arjuna (*ibid.* 19/16) and Yudhishṭhira (*ibid.* 157/28). Earlier, Paraśurāma, too, had annihilated these kshatriyas (*ibid.* 70/11-13). The Mālavas are said to have attended the *rājasūya* sacrifice of Yudhishṭhira and paid him a rich tribute (Sabhāparvan

34/11 and 52/15). Their mention along with the Lalitthās (Kuṇindas ?), Trigartas, etc., in the Droṇaparvan [*Atha prahasya bībhatsur lalitthānmālavānapi/Māchellakāṁ-strigartāṁścha yaudheyāṁśchārdayachchharaiḥ*//18,16], with the Madrakas in the Karṇaparvan [*Mālavā madrakāśchaiva*. (4,46)] and with Śibis and Trigartas (II.32,7) indicates that these verses were composed when the Mālavas were still in the vicinity of the said tribes and had not moved to Rajasthan from where most of their coins have been obtained.

As noted above, the Mālavas had confederated with the Kshudrakas to meet the challenge of Alexander (*Mbh*. II.50, 15; V.57,18; VI.59,13 etc.). During their movement from northwest Punjab to Rajasthan, they seem to have settled in the present day Indian Punjab – in the Ferozepur, Bhaṭiṇḍā, Sangrūr, Ludhiānā region to be more precise – to which they gave their name.[56] Recently, some small and light weight square/rectangular copper coins which remind us of the Mālava coins have been found from Sunām in district Sangrūr, which forms part of the Mālwā region of Punjab. They share the characteristics of Mālava coins but seem to be anterior to them as is indicated by small hitherto unnoticed punch-marks. These coins may tentatively be associated with the Mālavas when they were living in the Mālwa region of Punjab. Their passage from Punjab to Rajasthan may be traced through the ancient site of Malab in the Farīdābād district of Haryana which still bears their name and also yields early historic remains.

RĀJANYAS

The Rājanyas were mentioned by Pāṇini in his *Gaṇapāṭha* first. They have been grouped with the Śibis, Trigartas, Madras, Kekayas, Yaudheyas, etc. in the *Mbh*. (II.50,14). They were put to death by Yudhishṭhira along with the Yaudheyas, Āraṭṭas and Madrakas (*Mbh*. VII.132,25) –

> *Yaudheyāraṭṭarājanyamadrakāṇaṁ gaṇānyudhi /*
> *Prāhiṇonmṛityulokāya śūrān bāṇairyudhishṭhiraḥ //*

A similar reference occurs elsewhere also (*Mbh*. VII.136, 5).

Rājanya copper coins bearing biscriptual legends have been found from the Mānaswāl plateau of district Hoshiārpur[57] but their coins bearing only the Brāhmī legend come from Mathurā or nearby area of Rajasthan. The references in the *Mbh.* clearly indicate the period when they were living in the Punjab. We may mention here that an archaeological site yielding grey ware, early historic and medieval remains bearing the name Rājinī Devī, after the goddess whose temple exists there, may have been connected with the Rājanyas. The female deity depicted on Rājanya coins may have been this Rājinī (<Rājanyā) Devī. They may have migrated from here like many other tribes under the alien pressure.

SĀVITRĪPUTRAS

Pāṇini has referred to about thirty *āyudha-jīvi saṁghas*, i.e. tribes living by the profession of arms, under the three groups of *Dāmnyādi*, *Pārśvādi* and *Yaudheyādi* and the *Sāvitrīputrakas* figure in the first group.[58] In Sanskrit suffix *ka* is added to a word in the sense of 'born amongst or in the family of'. So the word Sāvitrīputrakas means 'born amongst or in the family of Sāvitrīputras'. The Sāvitrīputrakas thus trace their origin from the hundred sons of Sāvitrī and Satyavān. The story of Sāvitrī and Satyavān is given in details in the *Mbh.* and some other texts.[59]

Sāvitriputrakas have been mentioned in the *Mbh.* amongst the Kuru warriors killed by Arjuna :

Rādheyāḥ sūtaputrāścha bhrātrāścha mahārathāḥ /
Kekayāḥ sarvāśchāpi nihatāḥ Savyasāchinā //
Mālavā Madrakāśchaiva Draviḍāśchograkarmiṇaḥ /
Yaudheyāścha Lalitthāścha Kshudrakāśchāpyuśīnarāḥ //
Māvellakāstuṇḍikerāḥ Sāvitrīputrakāścha ye /
Prāchyodīchyāḥ pratīchyāścha dākshiṇātyāścha mārisha //

It is for the first time that I have identified two of their square copper coins in the British Museum, London. One of these was included by Allan in his Catalogue in 1936 but remained unidentified[60] or wrongly identified[61] all these years. The second coin was a later acquisition and remained undeciphered and unidentified. I visited the British Museum to see these coins in 1991 and later acquired their photographs and published them.[62] These coins show a stylized tree (?) and the Kharoshṭī legend *Sāvitripura janapadasa* on the obverse and a horse on the reverse. The use of Kharoshṭī indicates that the coins were in use somewhere to the north of the river Sarasvatī as we have no coins from the south of this river with Kharoshṭī legends. The Sāvitrīputras were closely associated with the Madras and the Sālvas and may have thus been ruling somewhere in their vicinity, probably between the Satluj and Rāvī but only future discoveries will enable us to pinpoint their territory. The coins belong to the later part of the second century BC. The scarcity of these coins indicates that the Sāvitrīputras did not rule for a long period. The relevant portion of the *Mbh.* may not have therefore been written long after the second century BC.

ŚIBIS

Like most other tribes, the Śibis, too, were located in the Punjab in district Jhang (now in Pakistan). They are a people of great antiquity as this name occurs in the *Aitareya Brāhmaṇa* and a Ṛigvedic hymn (X. 179) is ascribed to Śibi Auśīnara in the *Anukramaṇī*. The Greek historians refer to them as Siboi or Sibae and locate them at the confluence of the Hydaspes (*Vipāśā=Beās*) and Akesines (*Chandrabhāgā=Chenāb*).

All their coins, however, have come from Rajasthan, mostly from Nagarī near Chittor and some other places around. They bear the legend *Majhamikāya Śibi janapadasa* reminding us of some other tribes who have issued coins mentioning their metropolises. Majhamikā (Mādhyamikā) is generally identified with Nagarī. Since most of the passages of the *Mbh.* [*Kāśmīrāḥ Kundamānāścha Paurakā Haṁsakāyanāḥ/Śibi-trigarta-yaudheyā rājanyā Madra-Kekayāḥ//* (Vanaparvan 52/14); *Śibīnikshvākumukhyāṁścha Trigartān Saindhavānapi* (*Ibid.*, 267/28); *Tān Daśārṇān sa jitvā cha pratasthe Pāṇḍunandanaḥ/Śibīṃstrigartānambahsṭhān Mālavān Pañchakarpaṭān//* (Sabhāparvan, 32/7); *Ambashṭhān Mālavāñchhūrāṁstrigartān sa Śibīnapi/Prāhiṇonmṛtyulokāya kruddho yuddhe Yudhisṭhiraḥ//* (Droṇaparvan, 157/28)] mention them along with the Trigartas, probably they are represented as located in the Punjab before their movement to Rajasthan.

TRIGARTAS

The *Mbh.* contains innumerable references to the Trigartas whose king Suśarman, too, is referred to quite often.[63] They are described as wonderful charioteers (*rathodārāḥ, mahārathāḥ*), knowing the 'science of bow' (*dhanurvedavida*), invincible by the enemies (*ajeyāḥ śatrubhiḥ*) and prominent fighters (*dhurandhara-kshatriyas*). Literally, Trigarta means 'three pits' and the term represents the three valleys of the rivers Satluj, Beās and Rāvī. They are equated with the Jālandharas (*Jālandharās-trigartāḥ syuḥ*). Literary references point to Kāngrā-Jalandhar region as their habitat. There is no evidence of their movement anywhere from this region. Allan had published a square copper coin of the Trigartas bearing the four-tiered 'stūpa' and traces of Kharoshṭī legend on the obverse and three symbols with Brāhmī legend *Trakata janapadasa* on the reverse. Incidentally, this remains the only known coin of the tribe yet. P.L. Gupta has described the so-called 'stūpa' as 'a four-storeyed pillar structure with a dome at the top and a curvilinear eave around the roof above the ground floor. The structure is supported by a high railing and probably also a gate or pillared-post in the front'.[64] I feel that the structure depicted on this unique Trigarta coins is only three-tiered and the pillared-post in front has a bird perched on it. It is my hunch that the bird depicted is a cock. As such, it is probably a *Kukkuṭa-dhvaja*. Such *dhvajas* carrying a weapon or the vehicle of the deity was a usual thing in ancient times. We know of some other *Garuḍa-* and *Kukkuṭa-dhvajas* also. This hunch of mine goes well with the description of the Trigartas in the *Mbh.* as wonderful warriors. It is well known that *Kukkuṭa* is the emblem of the war-god Kārttikeya. The Trigartas, like the Yaudheyas, may have been the worshippers of Kārttikeya.

VEMAKIS

The *Mbh.* (II.48,12) refers to the Vaiyāmakas –

> *Kāyavyā Daradā Dārvāḥ śūrā Vaiyāmakāstathā/*
> *Audumbarā durvibhāgāḥ Pāradā Bāhlikaiḥ saha//*

They are generally identified with the Vemakis who issued silver and copper coins. The known silver coins are of the following description.

Obverse : Elephant to right with trunk upraised, a line below and a trident-axe in front under the head of the animal; Brāhmī legend around from XI o'clock *Rājño Vemakisa Rudravarmasa Vijayaka.*

Reverse : Bull standing to right, a wavy line below; lotus in front under the head of the animal; Kharoshṭī legend from IV o'clock *Raña Vemakisa Rudravarmasa* with *Vijayaya* below.

Similar silver coins but bearing the legend *Bhagavata Mahadevasa Rajaraja* in Brāhmī and *Bhagavata Mahadevasa Rajaraña* in Kharoshṭī are also attributed to these people by some scholars. I have, however, shown the untenability of this view. Some scholars attributed those coins to the Audumbaras which, too, is a false notion.[65] A new king bearing the name of Bhavavarman has also been brought to light by me recently.[66] A hoard of silver coins which included the Vemaki, Audumbara, Bhagavata Mahadevasa type and Kuṇinda coins was found in the early 1980s from Pālampur but was smuggled to London from where it dispersed to various places.[67]

The legend on the singular copper coin of the Vemakis was very controversial. It has recently been deciphered correctly by me as *Rājñ(o) Vemakisa Śivapālasa*, the correctness of which is vouched for by two other coins in private collections which I have seen. The reference to the Vemakis in the *Mbh.* seems to have been put in *circa* first century BC or so.

VṚISHṆIS

The Vṛishṇis were a well-known people of ancient India from the later Vedic period onwards. They have been mentioned by Pāṇini and Kauṭilya's *Arthaśāstra* describes them as a republican corporation. The *Mbh.* refers to Vṛishṇi, a kshatriya of the Yadu race, whose descendants came to be known as the Vṛishṇi. Kṛishṇa also belonged to the Vṛishṇi clan.[68]

In spite of copious literary references, a silver coin discovered by Cunningham and subsequently placed in the British Museum, has remained for long the sole evidence of their political existence. The coin bears a sort of *nandipada* standard in railing with a composite animal, half-lion and half-elephant, in front and circular Brāhmī legend *Vṛishṇi-rājajña-gaṇasya tratarasya* on the obverse and an elaborate twelve-spoked wheel with Kharoshṭī legend *Vṛishṇi-rājaññā-ga...* within a pellet border on the reverse. The coin is generally assigned to *circa* first century BC. Cunningham did not record the provenance of this coin and published it under Audumbara coins.[69]

The *Mbh.* (XVI.7, 70), the *Bhāgavata* (X.60, 37-38; XI.31, 25 etc.) and the *Vishṇu Purāṇa* (V.38, 19) indicate that the Vṛishṇis were settled by Arjuna in the Pañchanada region after the calamity that befell on them at Dvārakā where they had established themselves when Mathura, their original home, was invaded by the demons.[70] Numerous seals and sealing founds from Sunet, now in the municipal limits of Ludhiana in Punjab, furnish evidence of its being the Vṛishṇi stronghold. About two and a half dozen small round copper coins published earlier by Rodgers have been attributed to ten Vṛishṇi rulers who ruled here probably after the fall of the Kushāṇas and before the rise of the Yaudheyas during the third century AD.[71] The relevant portion of the *Mbh.* referring to their settlement in the Pañchanada, thus, seems to have been added sometime during the third-fourth century AD.

YAUDHEYAS

The Yaudheyas were an *āyudhajīvi-saṁgha* who have been documented in our literature and inscriptions from about 5th century BC to *circa* twelfth century AD and were at the height of their power from the middle of the second century BC to the fourth century AD (but for an interregnum of alien ascendancy) during which period they issued their coins also.[72] So much has been written about this celebrated republic that it is difficult to say something new. They have been mentioned at various places in the *Mbh.* Cunningham[73] traced their descent from Yudhishṭhira who had a son named Yaudheya begotten from his wife Devikā, daughter of Govāsana of the Śaibya tribe, as mentioned in the *Mbh.* (I.90,83) –

> *Yudhishṭhirastu Govāsanasya Śaibyasya Devikāṁ nāma kanyāṁ svayaṁvarāṁ lebhe/Tasyāṁ putraṁ janayāmāsa Yaudheya-nāma//*

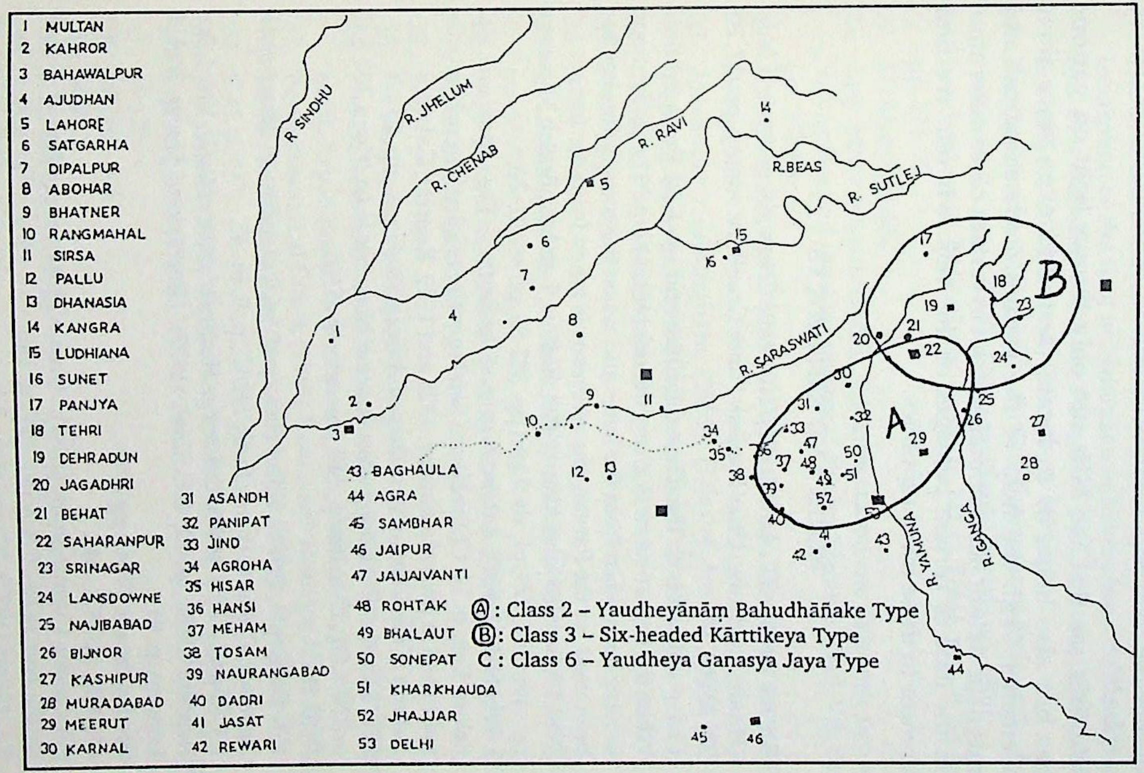
The Yaudheyas have been described in the *Mbh.* to have suffered defeats at the hands of Arjuna, Bhīma and Yudhishṭhira (Droṇaparvan, 19/16; 161/5;157/30 etc.) and even before the war, they are described to have been amongst the subordinate people who brought presents to Yudhishṭhira when he performed the *Rājasūya* sacrifice (Sabhāparvan, 52/14). Jagannath Agrawal had thus shown the untenability of this view long back[74] but some scholars go on following and supporting the view of Cunningham still.[75]

They have been described to have been conquered even by Nakula during his conquest of the western quarter –

Tato bahudhanaṁ ramyaṁ gavāśvadhanadhānyavat /
Kārttikeyasya dayitaṁ Rohitakamupādravat //
Tatra yuddhaṁ mahad vṛttaṁ śūrair-Mattamayūrakaiḥ /
Marubhūmiṁ sa kārtsnyena tathaiva Bahudhānyakam //

The association of Kārttikeya and his dear city Rohītaka (modern Rohtak) with the Yaudheyas is referred to here. That the Yaudheyas occupied the Bahudhānyaka region is evident from their earliest coins bearing the legend *Yaudheyānāṁ Bahudhāñake* (Map 4). But the Yaudheyas have not been mentioned by their name directly. They have been called Matta-mayūrakas. Peacock is the vehicle of Kārttikeya, shown with him in the *Yaudheyagaṇasya Jaya* type coins also. I think that the Yaudheyas were the earliest people to depict peacock with Kārttikeya though it became a significant feature of the images of the god during the Gupta period. Even the earliest depiction of cock with Kārttikeya occurs on a Yaudheya coin.[76]

A unique silver coin of the tribe, now preserved in the British Museum, shows six-headed Kārttikeya and six-headed Shashṭhī on the obverse and the reverse carries the Brāhmī legend *Bhagavata Svāmino Brahmaṇyadevasya Yaudheya*.[77] On the copper coins of this class, however, the last word is missing and is sometimes replaced by the word *Kumārasya*. Nisar Ahmad thought that since the word Yaudheya is substituted by Kumāra, this later word also stands for the name of a tribe like the word Yaudheya. He found some references in the *Mbh.* and the Purāṇas regarding the existence of a tribe bearing this name and came forward with the theory that these coins belong not to the Yaudheyas but to the Kumāras.[78] P.L. Gupta commended this theory.[79] Ajay Mitra Shastri rejected this attribution on grammatical ground as the name of the tribe in the legend occurs with the genetive singular suffix *sa*.[80] Gupta treated Shastri's objection as 'grammatical jugglery' and not only vehemently upheld but even 'usurped' it later.[81] I have, however, demonstrated that the Critical Edition of the *Mbh.* does not contain the name of the Kumāra tribe and even if we accept it for the sake of argument, the tribe existed in the Dakshiṇāpatha and not in the


1 MULTAN
2 KAHROR
3 BAHAWALPUR
4 AJUDHAN
5 LAHORE
6 SATGARHA
7 DIPALPUR
8 ABOHAR
9 BHATNER
10 RANGMAHAL
11 SIRSA
12 PALLU
13 DHANASIA
14 KANGRA
15 LUDHIANA
16 SUNET
17 PANJYA
18 TEHRI
19 DEHRADUN
20 JAGADHRI
21 BEHAT
22 SAHARANPUR
23 SRINAGAR
24 LANSDOWNE
25 NAJIBABAD
26 BIJNOR
27 KASHIPUR
28 MURADABAD
29 MEERUT
30 KARNAL
31 ASANDH
32 PANIPAT
33 JIND
34 AGROHA
35 HISAR
36 HANSI
37 MEHAM
38 TOSAM
39 NAURANGABAD
40 DADRI
41 JASAT
42 REWARI
43 BAGHAULA
44 AGRA
45 SAMBHAR
46 JAIPUR
47 JAIJAIVANTI
48 ROHTAK
49 BHALAUT
50 SONEPAT
51 KHARKHAUDA
52 JHAJJAR
53 DELHI
Ⓐ : Class 2 – Yaudheyānāṃ Bahudhāñake Type
Ⓑ : Class 3 – Six-headed Kārttikeya Type
C : Class 6 – Yaudheya Gaṇasya Jaya Type
R. SINDHU
R. JHELUM
R. CHENAB
R. RAVI
R. BEAS
R. SUTLEJ
R. SARASWATI
R. YAMUNA
R. GANGA
A
B

Map. 4 The Yaudheyas: The Distribution of their Coins region where these coins are found. There are many specimens on which the word Kumārasya, too, is missing but otherwise they are the same. The internal evidence of the coins themselves clearly indicates that the word Kumāra stands for Kārttikeya and not for any tribe.[82]

We thus see that the *Mbh.* not only throws light on various tribes but also helps us to locate them and even trace their movements. With the help of the textual, archaeological and numismatic date at our disposal, we can in certain cases determine even the date of certain passages of the *Mbh.* wherein we find references to these tribal republics.

NOTES AND REFERENCES

1. See for details B.C. Law (1972), *Historical Geography of Ancient India* (Hindi), Lucknow: Uttar Pradesh Hindi Granth Academy, pp. 17, 20, 23, 70 etc.
2. I have utilized both the Critical Edition and the Gītā Press Edition. When the Parvan name is given, the references should be understood to have been taken from the latter and when the roman number has been used for the Parvan, the reference is taken from the former.
3. *JNSI*, IV; See also John Allan (1936), *BMCAI*, London : British Museum, pp. cliii, clvii, 279, pl. xlv.9 and pp. 282-83, pl. xlv.21-24.
4. J. Przyluski, (1962), *Ancient Peoples of the Punjab – The Udumbaras and Salvas*, Eng. tr. by Chitrabhanu Sen from the original French articles published in *Journal Asiatique*, 1926 and 1929, Reprint, Calcutta.
5. *Bulletin of the School of Oriental and African Studies*, X, pp. 237 ff.
6. Bela Lahiri, (1974), *Indigenous States of Northern India* (*Circa 200 B.C. to 320 A.D.*), Calcutta, p. 248 (henceforth *ISNI*).
7. *JNSI*, IV.
8. K.K Dasgupta, (1974), *Tribal History of Ancient India – A Numismatic Approach*, Calcutta (henceforth *THAI*), p. 9, fn. 45.
9. E.J. Rapson (ed.) (1968), *Cambridge History of Ancient India*, Vol. I, 3rd Reprint, Delhi, p. 72; B.C. Law, (1937), *Geographical Essays*, Vol. I, London, p. 91.
10. See for details *THAI*, pp.17ff.
11. *IA*, XIII, pp. 331, 349.
12. Alexander Cunningham (1882), *Archaeological Survey Report: Report for the Year 1878-79 (CASR)*, XIV, p. 140.
13. P.L. Gupta (1977), "Coins of the Arjunayanas," *ND*, I (1977), pp. 14-18, Pl. II.1-3.

14. *BMCAI*, p. lxxxiii.
15. Devendra Handa, (1985), *Studies in Indian Coins and Seals*, Delhi, p. 42.
16. Nisar Ahmad, (1993), "Coins of the Ārjunāyanas," *ND*, 17, p. 18.
17. The Uttama-bhadras have been mentioned in the Nāsik Cave Inscription of the time of Nahapāna as having been defeated by his son-in-law Ushavadāta near Pushkar [D.C. Sircar, (1965), *Select Inscriptions*, Vol. I, 2nd ed., Calcutta, p. 169].
18. For details see, M.R. Singh, (1972), *Geographical Data in the Early Purāṇas – A Critical Study*, Calcutta: Punthi Pustak, pp. 153ff.
19. For details see, *BMCAI*, pp. ixxxiii ff, 122 ff; *THAI*, pp. 38-70; *ISNI*, pp. 216-25.
20. *THAI*, pp. 43-44.
21. Ajay Mitra Shastri, (1965), "*Mahābhārata* on the Relations Between Viśvāmitra and the Audumbaras," *Purāṇa*, Varanasi, Vol. VII, Part I, pp. 362-66.
22. K.P. Jayaswal, (1955), *Hindu Polity*, 3rd ed., Bangalore (henceforth *HP*), p. 161.
23. Alexander Cunningham, (1891), *Coins of Ancient India*, London (Reprint, Varanasi, (1963) (henceforth *CAI*), p. 66.
24. *CASR*, XIV, p. 136; *CAI*, p. 68.
25. *BMCAI*, pp. 122f.
26. *HP*, p. 154.
27. S.V. Sohoni, (1942), "A Note on Audumbara Temple Coins", *JNSI*, IV, pp. 55-57.
28. Moti Chandra, (1945), *Geographical and Economic Studies in the Mahābhārata*, Lucknow, p. 90.
29. *THAI*, p. 39, fn. 7.
30. Śrī Veṅkaṭeśvara Press, Bombay, Ch. 207, vv. 22-23.
31. For *Bṛihat-saṁhitā* references, see Ajay Mitra Shastri, *Varāhmihira's India*, Aryan Books International, New Delhi: 1996, pp. 80-81.
32. Parmeshwari Lal Gupta, (1988), *Numismatic History of Himachal Pradesh*, Delhi : B.R. Publishing Corporation (henceforth *NHHP*), p. 10.
33. *CAI*, p. 66.
34. J. Marshall, (1975), *Taxila*, Reprint, Delhi, Vol. III, Pl. 252-57.
35. E.J. Rapson, (1900), "Notes on Indian Coins and Seals I", *JRAS*, p. 125.
36. *NHHP*, p. 11.
37. *Ibid*.
38. *CASR*, IV, pp. 175-76.
39. *JASB*, 1875, p. 89.
40. *HP*, p. 70, fn. 1.
41. *NHHP*, p. 26.

42. Devendra Handa, (1993), "Some Interesting Kuṇinda Coins", *Oriental Numismatic Society Newsletter*, No. 137.
43. *NHHP*, p. 26.
44. Devendra Handa, (1991), "A Note on the Kuṇinda Coins from Sumari and Some Other Sites," *ND*, 15, pp. 18-22.
45. Devendra Handa, (1999), "The Attribution of the Chitreśvara Type Coins," *Oriental Numismatic Studies*, New Delhi, Vol. 2, pp. 33-43, Pls. II-II.
46. V.S. Agrawala, (1963), *India as Known to Pāṇini*, 2nd edn., Varanasi, pp. 455, 471-74.
47. *IA*, 1873, p. 200 ff.
48. J.W. Mc Crindle, (1896), *The Invasion of India by Alexander the Great as Described by Arrian, Q. Curtius, Diodoros, Plutarch and Justin*, Westminster, p. 238. Curtius, however, refers to them as Sudracae.
49. R.C. Majumdar, (ed.) (1968), *The Age of Imperial Unity*, 4th ed., Bombay, p. 40.
50. *Indica*, X.10.
51. V.A. Smith, (1903), *JRAS*, pp. 655 ff.
52. For details of their fight, see Handa (1985), pp. 30 ff.
53. Jayaswal, *HP*, p. 146; A.S. Altekar, (1958), *State and Government in Ancient India*, 3rd ed., Delhi, p. 120.
54. D.C. Sircar, (1968), *The Age of Imperial Unity*, p. 163.
55. See for details Handa, (1985), pp. 30-35, Pl. XIII. 9-10.
56. The whole of this region is still known as Mālwā and its language is called Malwai. Places like Maler-Kotla and Malot in this region seem to contain the remnants of their name. Maler-Kotla was originally the twin village, Mālera being the old habitation and Kotla belonging to the Muslim period. Maler may have been derived from Mālavā-nagara (*Cf. Bikaner <Bīkā-nagara*). It has yielded three-dotted diminutive 8-*ratti* Indo-Sasanian silver coins which indicate its habitation in the early historic period. Malot seems to have derived from Mālavā-koṭṭa.
57. *BMCAI*, p. cxxiii.
58. V.S. Agrawala, *India as Known to Pāṇini*, p. 448.
59. *Mbh.*, Vanaparvan, chs. 293-99; *Devī Bhāgavata* IX.26-28; *Matsya Purāṇa*, chs. 207-213; *Vishṇudharmottara Purāṇa*, II. 36-41; *Brahmavaivarta Purāṇa*, II.23-24 etc.
60. *BMCAI*, p. 213, no. 20, Pl. XLIV. 13.
61. Michael Mitchiner, (1976), *Indo-Greek and Indo-Scythian Coinage*, Vol. 7, London, p. 628, attributed the coin to Sivachatrapura *Janapada*.
62. Devendra Handa (1998), "Coins of the Sāvitrīputras," *The Numismatic Chronicle*, Cambridge, No. 158, pp. 243-248, Pl. 55.4-5.

63. Udyogaparvan, 164/8; 166/9-13; Bhīshmaparvan 56/4; 61/12-13; 72/7; 102/9-23; Droṇaparvan, 4/8; 11/17; 17/16-17; 19/16; 70/12; 141/2-8; 157/28; Karṇaparvan 4/18; Śalyaparvan 27/31-48; etc. See also B.C. Law, (1973), *Tribes in Ancient India*, 2nd ed., Poona.
64. P.L. Gupta (1985), "Bearing of Numismatics on Early Indian Art History in the Background of Epigraphy," *Indian Epigraphy: Its Bearing on the History of Art*, Ed. Asher and Gai, New Delhi, pp. 10-11, fig. 15; *NHHP*, pp. 13-14.
65. Ajay Mitra Shastri (1964), "Was Mahadeva an Audumbara King?", *JNSI*, XXVI, pp. 157-61; Devendra Handa (1995), "The Riddle of King Mahadeva", *ND*, 19, pp. 1-12.
66. Devendra Handa (1993), "New Vemaki Silver Coins", *Numismatic Circular*, London, Vol. CI, No. 6, p. 187.
67. A friend had passed on the photographs of this hoard taken in Delhi to me. I tried to trace its whereabouts and learnt that it had ultimately reached London from where it dispersed to various places. P.L. Gupta has also referred to it in his *NHHP*, p. 50, fn. 59. I have published some papers on the coins of this hoard from the photographs I had obtained.
68. For references see Handa (1985), pp. 66 f.
69. *CAI*, p. 70, Pl. IV.15; also *BMCAI*, p. 281, Pl. XVI.5.
70. *Kānaneshu cha ramyeshu parvatehsu nadīshu cha /*
    Nivasannānayāmāsa Vṛishṇi- dārān Dhanaṁjayaḥ //
    Sa pañchanadamāsādya dhīmānatisamṛiddhimat/
    Deśe go-paśu-dhānyāḍhye nivāsamakarot prabhuḥ //
    (Mausalaparvan, 7/44-45). See also *Harivaṁśa*, Gita Press, ed., I. 35, 19-22.
71. Handa (1985), pp. 66-74, Pl. XV. 1-3.
72. Devendra Handa (1991), "The Yaudheyas and Their Coins", *Numismatic Studies*, New Delhi, Vol. 1, pp. 64-77.
73. *CASR*, XIV, p.140.
74. Jagannath Agrawal (1970), "An Ancient Republic of the Punjab – The Yaudheya-Gana", in *Essays on History, Literature, Art and Culture (Presented to Dr. M.S. Randhawa on his sixtieth birthday by his friends and admirers)*, eds. K.S. Bedi and S.S. Bal, New Delhi, pp. 49 ff.
75. M.K. Sharan, (1972), *Tribal Coins – A Study*, Delhi, pp. 64 ff.
76. For details see Devendra Handa (1993), "A Unique Yaudheya Copper Coins", *Numismatic Circular*, London, Vol. CI, No. 6, pp. 193-94.
77. *BMCAI*, Pl. XXXIX.21.
78. Nisar Ahmad, (1977), "The Kumaras—A Forgotten Ancient Indian Tribe", in *Seminar Papers on The Tribal Coins of Ancient India*, edited by J.P. Singh and Nisar Ahmad, Varanasi, pp. 184-85.
79. P.L. Gupta (1978), Editorial Note to K.K. Maheshwari's article, "New Tribal and Monarchical Coins", *ND*, II, p. 23.

80. Ajay Mitra Shastri (1984), "Interesting Kuṇinda and Yaudheya Coins," *ND*, VIII, pp. 35-36.
81. P.L. Gupta (1987), "The Brahmanya Coins," *ND*, XI, pp. 130 ff; *NHHP*, pp. 27-29.
82. Devendra Handa (1993), "The Attribution of the Brahmaṇyadeva Type Coins," *Proceedings of the XIth International Numismatic Congress*, Vol. III, Louvain-la-Neuve, pp. 227-31.

APPENDIX

Janapadas (Tribes) Mentioned in the *Mahābhārata**

Āgreya**
Aṭavīśikhara
Aṭhida
Adhirājya
Anupāvṛitta
Anūpa
Antachāra
Andhakāraka
Andhra/Āndhra
Aparakāśī
Aparākunti
Aparamlechccha
Aparavallava
Aparaseka
Aparānta
Abhīshāha
Abhīsāra
Ambashṭha
Ayavāha
Araṭṭa
Ātreya
Ānarta
Ābhīra
Āmaratha
Ārochaka
Audumbara/Udumbara**
Utkala
Uttamāśva
Uttara Kosala
Uttara Pāñchāla
Upagiri
Upatyaka
Uraga
Ulūta/Ulūka/Kulūta**
Ekapāda
Karaka
Karaṭa
Karabhañjaka
Karīti
Karīshaka
Karūsha
Karkakhaṇḍa
Karṇāṭaka
Kaliṅga
Kāka
Kaksha
Kachchha
Kātāraka
Kānti
Kanyakāguṇa
Kāmboja
Kālatoyaka
Kālada
Kāśi
Kāśmīra(/ka)
Kirāta
Kuk(k)ura
Kuṇḍala
Kuṇḍīvisha
Kuṇḍīvṛisha
Kuntala
Kunti
Kuṇḍāparānta
Kumāra
Kuru (Jāṅgala)
Kuru-Pāñchāla
Kuruvarṇaka
Kuruvinda
Kulattha
Kulinda/Kuṇinda**
Kuśādya (Kulūta**)
Kuśalya
Kuśavindu
Kekaya
Kaitava
Koṅkaṇa
Kokavaka
Kosala
Krūra
Kshudraka**
Gandhāra
Gārgya
Girigahvara
Guha
Guhyaka
Godhā
Goparāshṭra
Gomanta
Ghaṭa
Ghoraka
Chakrāti
Charmamaṇḍala
Chibuka
Chīraka
Chūchuka
Chūchupa
Chedi
Chola
Chaura
Jaṭhara
Jāṅgala
Jhillika
Taṅgaṇa
Tanaya
Tarala
Tāmradvīpa
Tāmraliptaka
Tālachara
Tālavana
Tālākaṭa
Tittira
Tilabhāra
Tīragraha
Tuṇḍikera
Tushāra
Tomara (Trigarta**)
Tripurā
Tripurī
Tryaksha
Darada/Dārada
Darva
Daśamālika
Daśārṇa

Dānabhāri
Dārvī
Durgāla
Draviḍa/Drāviḍa
Dvyaksha
Dhurandhara
Dhenuka
Dhvajini
Nabhakānana
Nara
Nākula
Nishāda
Nīpa
Nepāla
Naikapṛishṭha
Nairṛita
Pañchakarpaṭa
Pañchagaṇa
Pañchāla
Paṭachchara
Parataṅgaṇa
Parakāmboja
Paśu
Pahlava
Pākhaṇḍa
Pāṇḍurāshṭra
Pāṇḍya
Pārada
Pārasika
Pa[ā]rvatīya
Pārśvaroma
Pāśivāṭa
Pulinda
Pauṇḍra
Pratimatsya
Prasthala
Prāchya
Prāvṛisheya
Proshaka
Proshṭha
Ballava
Bahirgiri
Bahuvādya
Bāhli[ī]ka
Bodha
Bhadra
Bhadrakāra
Bhārata
Bharadvāja
Bharukaksha
Bharga
Bhallāṭa
Bhārgava
Bhūliṅga
Bhūshika
Maṅga
Maṇḍaka
(Mattamayūra)
Matsya
Madra/Madraka
Madrakaliṅga
Madhumān
Maṇḍaga
Malaja
Malada
Maśaka
Masīra
Mahottha
Mādreyajāṅgala
Mānavarjaka
Mārisha
Māruta
Māla
Mālava**
Māvellaka
Māhika
Māhishaka
Māheya
Mithilā
Mūshaka
Mṛittikāvatī
Mekala
Merubhūta
Mohana
Yamaka
Yakṛillomā
Yadu
Yāmuna
Yugandhara
Yaudheya**
Ra[ā]maṭha
Ramaṇachīna
Rājanya**
Rūpavāhika
Romaka
(Lalittha)
(=Kuṇinda)**

Vaṅga
Vatsa
Vadhra
Vanavāsika
Vanāyu
Valkala
Vasāti
Vāṭadhāna
Vātaja
Vānava
Vāravāsya
Vikarṇa
Vikalpa
Vikuñja
Vijaya
Vidabha
Vi[/ai]deha
Vindhyachulika
Vṛishṇi**
Veṇupa
Vetrika/Vaiyāmaka**
Vyūka
Sālveya
Śaka
Śarmaka
Śaśika
Śālva
Śālvaseni
Śālveya
Śibi**
Śuṇḍika
Śūrasena
Śūrpāraka

Śaivāla
Sakṛidgraha
Sanīya
Saṇu
Samaṅga
Samantara
Samavegavaśa
Sāmudraniṅkuṭa
Sāvitrīputraka**
Siddha
Sindhu
Sindhupulinda
Sindhusauvīra
Sukandaka
Sukuṭa
Sudāmā
Sudṛishṭa
Sudeshṇā
Sunaya
Sunītha
Sumallika
Surabhīpattana
Surāshṭra
Susaṁkula
Susthala
Suhma
Sairindhra
Somadheya
Sauśalya
Sauhṛida
Stanaposhaka
Stanavāla
Svaksha
Svarāshṭra
Huṇḍa

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*The list of these *janapadas* has been compiled from *Mahābhārata kī Nāmānukramaṇikā,* Gītā Press, Gorakhpur, VS 2016 and follows Sanskrit alphabetical system.

** The *janapadas* marked by double star have issued coins also.

26

महाभारत के प्रमुख पात्रों की आयु

एक विवेचन

योगेश्वरी शास्त्री

महाभारत युद्ध भारतीय इतिहास की एक अभूतपूर्व घटना है और अनेक दृष्टियों से उसका विशिष्ट महत्त्व है। इस युद्ध में *महाभारत* के अनुसार, भारत के अधिकांश प्रदेशों की राजसत्ताओं ने कौरवों अथवा पाण्डवों की ओर से सक्रिय भूमिका अदा की। इस युद्ध के साथ ही द्वापर की समाप्ति होकर कलियुग का आरम्भ हुआ। इससे स्पष्ट है कि महाभारत युद्ध प्राचीन भारतीयों की दृष्टि में कितना महत्त्वपूर्ण था। किसी भी युद्ध में योद्धाओं की सफलता के लिए उनका स्वस्थ और बलवान होना अपेक्षित है और इस दृष्टि से उनकी आयु का अत्यधिक महत्त्व है। *महाभारत* में कुछ ऐसे उल्लेख हैं जिनसे भीष्म, द्रोण, युधिष्ठिर, भीमसेन, अर्जुन, नकुल, सहदेव, दुर्योधन, घटोत्कच, अभिमन्यु इत्यादि प्रमुख पात्रों की आयु पर महत्त्वपूर्ण प्रकाश पड़ता है। प्रस्तुत लेख का उद्देश्य *महाभारत* के वर्णन के आधार पर इन पात्रों की आयु का निर्धारण है। यद्यपि उनकी आयु के कुछ स्पष्ट उल्लेख भी मिलते हैं तथापि मुख्यतः उनके जीवन की घटनाओं और उनके बीच के अन्तराल को ध्यान में रखकर उनकी सामान्य आयु निकालने का प्रयत्न किया गया है।

भीष्म पितामह

भीष्म पितामह की आयु के निर्धारण के लिए इस लेख में उनकी माँ गंगा द्वारा अपने पति शान्तनु के हाथों भीष्म (देवव्रत) को सौंपने का वर्णन है। जिस समय उनको सौंपा गया, *महाभारत* के वर्णन के अनुसार वह शस्त्र और शास्त्र में पारंगत हो चुके थे। इसके लिए कम से कम बीस वर्ष की आयु अपेक्षित है।[1] *महाभारत* में यह स्पष्ट उल्लेख है कि राजा शान्तनु ने राजकाज में सहयोग के लिए देवव्रत को समस्त पौरवों के बीच युवराज पद पर अभिषिक्त किया गया और इस अमित पराक्रमी राजा

शान्तनु ने अपने गुणवान् पुत्र के साथ आनंदपूर्वक रहते हुए चार वर्ष व्यतीत किये[2]। भीष्म (देवव्रत) के जीवन की दूसरी महत्त्वपूर्ण घटना राजा शान्तनु का सत्यवती से विवाह है, जिसके कारण भीषण प्रतिज्ञा करके देवव्रत भीष्म कहलाये। इस समय तक भीष्म की आयु चौबीस वर्ष की हो चुकी थी। कुछ समय पश्चात् सत्यवती के गर्भ से चित्राङ्गद एवं विचित्रवीर्य पैदा हुए[3]। *महाभारत* में इनके समय का उल्लेख नहीं किया गया है। केवल "ततः" एवं "अथापरं" इन दो शब्दों का उल्लेख है। साधारण रूप से इन बालकों में दो वर्ष का अन्तराल तो रखना अपेक्षित ही होगा। अतः विचित्रवीर्य के पैदा होने के समय तक भीष्म की आयु सत्ताईस वर्ष की हो चुकी थी। शान्तनु के देहान्त के पश्चात् चित्राङ्गद को राजगद्दी पर आसीन करने का उल्लेख *महाभारत* में आता अवश्य है किन्तु उसकी उम्र का उल्लेख नहीं किया गया है। साधारणतः उस समय उसकी उम्र सोलह वर्ष की अपेक्षित की जा सकती है। *महाभारत* के अनुसार तीन वर्ष तक गन्धर्वराज के साथ भयंकर युद्ध करते हुए चित्राङ्गद मारा जाता है[4]। अर्थात् उस समय चित्राङ्गद की उम्र उन्नीस वर्ष रही होगी। राजगद्दी पुनः रिक्त हो जाती है। उस समय विचित्रवीर्य युवावस्था को प्राप्त नहीं हुआ था[5]। विचित्रवीर्य को चित्राङ्गद से दो वर्ष छोटा माने तो उनकी आयु शान्तनु की मृत्यु के समय सतरह वर्ष होनी चाहिए। भीष्म इस समय तक चवालीस वर्ष के हो चुके थे। *महाभारत* के अनुसार उन्होंने विचित्रवीर्य के युवावस्था तक पहुँचने तक राज्य संभाला[6]। यदि यह काल हम पाँच वर्ष का मानें तो भीष्म की आयु उनंचास वर्ष एवं विचित्रवीर्य की आयु बाईस वर्ष होनी अपेक्षित है। इसी अवस्था में काशीराज की पुत्रियों – अम्बिका और अम्बालिका – के साथ विचित्रवीर्य का विवाह होता है। विवाह के पश्चात् सात वर्ष तक निरन्तर विहार के कारण राजयक्ष्मा से उनकी मृत्यु का स्पष्ट उल्लेख *महाभारत* में आता है[7]। अतः उनतीस वर्ष की अवस्था में विचित्रवीर्य का देहान्त होता है। उस समय भीष्म की उम्र छप्पन वर्ष की हो चुकी थी। पुनः राजगद्दी पर संकट उपस्थित होता है। अतः माता सत्यवती ने भीष्म के परामर्श से कृष्ण द्वैपायन व्यास द्वारा नियोग की व्यवस्था की। इस व्यवस्था में एक वर्ष लगना स्वाभाविक ही है। अतः अम्बिका के गर्भ से व्यासपुत्र धृतराष्ट्र के पैदा होते समय भीष्म की उम्र अट्ठावन वर्ष तथा अम्बालिका के गर्भ से व्यासपुत्र पाण्डु के पैदा होते समय भीष्म की उम्र उनसठ वर्ष रही होगी। भीष्म की देखरेख में राजकुमार तथा हस्तिनापुर विकसित हो रहे थे। उन्होंने राजकुमारों का यज्ञोपवीत संस्कार करवाया[8]। यद्यपि *महाभारत* में तीनों कुमारों का यज्ञोपवीत एक साथ कराने का उल्लेख आता है, किन्तु क्षत्रियों का यज्ञोपवीत ग्यारह वर्ष की अवस्था में होने के कारण कुमारों की अवस्था में एक-एक वर्ष का अन्तर होना स्वाभाविक है। अतः धृतराष्ट्र के यज्ञोपवीत के समय भीष्म की उम्र सत्तर वर्ष तथा पाण्डु के समय इकत्तर वर्ष रही होगी। विद्याध्ययन में पारंगत होने के पश्चात् धृतराष्ट्र के जन्मान्ध होने के कारण पाण्डु

को राजगद्दी देने का *महाभारत* में उल्लेख आता है[9]। शस्त्र-शास्त्र के इस अध्ययन के समय को यदि दस वर्ष माना जाये तो पाण्डु की उम्र राजगद्दी के समय इक्कीस वर्ष रही होगी और भीष्म की इक्यासी वर्ष। सुबल की पुत्री गांधारी का विवाह धृतराष्ट्र के साथ, पाण्डु का विवाह कुन्ती के साथ और फिर कुछ समय पश्चात् माद्री के साथ होता है। एक माह तक राजभवन में रानियों के साथ विहार करने के पश्चात् राजा पाण्डु समूची पृथ्वी पर विजय प्राप्त करने की इच्छा से राजधानी से बाहर निकलते हैं। वे दशार्ण, मगध, विदेह, काशी, सुह्म, पुण्ड्र आदि पर विजय प्राप्त कर कुरूकुल का यश बढ़ाते हैं। इसके पश्चात् वे पत्नियों के साथ वन-विहार को चले जाते हैं। इन सभी घटनाओं को घटित होने में कम से कम सात वर्ष का समय तो व्यतीत हुआ ही होगा, अर्थात् उस समय पाण्डु की उम्र अठ्ठाईस वर्ष तथा भीष्म की अठ्ठासी वर्ष अपेक्षित की जा सकती है।

वन में पाण्डु द्वारा मृगरूपधारी मुनि का मृगरूपधारिणी पत्नी के साथ समागम के समय वध करना तथा उनसे शाप प्राप्त करना[10], पाण्डु का सन्यास ग्रहण करना तथा पत्नियों के अनुरोध पर वानप्रस्थ आश्रम में प्रवेश करना तथा पितृॠण से उॠण होने के लिए कुन्ती से नियोग द्वारा सन्तान प्राप्ति की इच्छा प्रकट करना, इन सब घटनाओं का समय कम से कम दो वर्ष तो माना ही जा सकता है। अर्थात् उस समय पाण्डु की उम्र तीस वर्ष और भीष्म की नब्बे वर्ष रही होगी। *महाभारत* के अनुसार जब गांधारी को गर्भधारण किये एक वर्ष बीत गया उस समय कुन्ती ने विधिपूर्वक मंत्र का जाप किया तथा धर्म का आवाहन किया[11]। तदनन्तर उचित समय पर युधिष्ठिर का जन्म हुआ। पाण्डु के आग्रह पर वायु का आवाहन करके कुन्ती ने भीम को उत्पन्न किया। इसी प्रकार कुछ काल पश्चात् इन्द्र का आवाहन कर अर्जुन को जन्म दिया। पाण्डु की इच्छा से कुन्ती द्वारा माद्री को मन्त्र देना और अश्विनी कुमारों के आवाहन पर नकुल-सहदेव का जन्म होने का उल्लेख भी *महाभारत* में आता है। इसी प्रकार *महाभारत* के अनुसार जिस दिन दुर्योधन का जन्म हुआ उसी दिन परम पराक्रमी महाबाहु भीमसेन भी उत्पन्न हुए[12]। इस उल्लेख से यह स्पष्ट हो जाता है कि युधिष्ठिर दुर्योधन से ज्येष्ठ थे तथा भीम और दुर्योधन की उम्र समान थी। पाण्डवों के जन्म के बीच यदि हम दो-दो[13] वर्षों का अन्तराल रखें तो पाण्डु की उम्र सहदेव तक आते आते अड़तीस वर्ष की, तथा भीष्म की अठ्ठानवे वर्ष की हो जाती है। *महाभारत* में पाण्डुपुत्रों के गर्भाधान, चूडाकरण तथा उपनयन आदि संस्कारों के साथ-साथ वेदाध्ययन में पारंगत होने का भी उल्लेख आता है[14]। तत्पश्चात् अर्जुन के चौदह वर्ष का हो जाने पर एक दिन माद्री के प्रति पाण्डु का काम-मोहित होना एवं शापवश मृत्युमुखी हो जाने का वर्णन भी *महाभारत* में मिलता है[15]। अर्जुन की चौदह वर्ष की उम्र के इस उल्लेख से यह स्पष्ट हो जाता है कि पाण्डु निधन के समय बावन वर्ष के रहे होंगे तथा इस समय तक भीष्म की आयु

एक सौ बारह वर्ष, युधिष्ठिर की अठारह वर्ष, भीम की सोलह वर्ष, दुर्योधन की सोलह वर्ष, अर्जुन की चौदह वर्ष तथा नकुल-सहदेव की बारह वर्ष अपेक्षित की जा सकती है। पाण्डु के निधन के पश्चात् माद्री का उनके साथ सती होना, पाँचों पाण्डवों सहित कुन्ती का हस्तिनापुर आना, वहाँ पाण्डु और माद्री की अस्थियों का दाह-संस्कार कराना, भाई-बन्धुओं द्वारा जलांजलि देना, पाण्डवों और धृतराष्ट्रपुत्रों की बालक्रीड़ा, दुर्योधन का भीम को विष खिलाकर गंगा में ढकेल देना, सत्यवती, अम्बिका एवं अम्बालिका का वन-गमन, द्रोण का आगमन, कौरवों और पाण्डवों की अस्त्र-शस्त्र शिक्षा का आचार्य द्वारा परीक्षण, इन सभी घटनाओं के घटित होने के लिए पाँच वर्ष का समय आसानी से दिया जा सकता है। अर्थात् शस्त्र परीक्षा के समय भीष्म की उम्र एक सौ सतरह वर्ष, युधिष्ठिर की तेईस, भीम की इक्कीस, दुर्योधन की इक्कीस, अर्जुन की उन्नीस तथा नकुल-सहदेव की सतरह वर्ष रही होगी। शस्त्र परीक्षा के पश्चात् गुरु-दक्षिणा के रूप में आचार्य द्रोण का शिष्यों द्वारा द्रुपद पर आक्रमण करवाना, दुर्योधन क़ा द्रुपद से पराजित होना, अर्जुन का द्रुपद को बन्दी बनाना, द्रोण द्वारा द्रुपद को आधा राज्य दे देना तथा एक वर्ष पश्चात् युधिष्ठिर का युवराज पद पर अभिषेक[16] आदि घटनाओं का वर्णन *महाभारत* में मिलता है। अर्थात् युवराज बनते समय युधिष्ठिर की उम्र चौबीस वर्ष, भीम की बाईस वर्ष, दुर्योधन की बाईस वर्ष, अर्जुन की बीस वर्ष, नकुल-सहदेव की अठारह वर्ष और भीष्म की एक सौ अठारह वर्ष रही होगी। युधिष्ठिर के युवराज बनने के पश्चात् शौर्य-प्रदर्शन के लिए अर्जुन का भीमसेन की सहायता से पूर्व दिशा के सम्पूर्ण योद्धाओं तथा दस हजार रथियों को जीतना, अर्जुन की दक्षिण दिशा पर विजय, तत्पश्चात् दुर्योधन की सलाह से धृतराष्ट्र द्वारा पाण्डवों को वारणावत भेजना, खनिक का सुरंग खोदना तथा पाण्डवों का वारणावत में एक वर्ष[17] तक रहना आदि का वर्णन *महाभारत* में प्राप्य है। इस घटना के पश्चात् भीष्म की आयु एक सौ उन्नीस वर्ष, अर्जुन की इक्कीस वर्ष, नकुल-सहदेव की उन्नीस वर्ष तथा दुर्योधन की तेईस वर्ष हो जाती है। इसके पश्चात् पाण्डवों का लाक्षागृह से बचकर नाव से गंगा पार करना, दक्षिण दिशा की ओर जाना, भीम द्वारा हिडिम्ब का वध, हिडिम्बा से मिलन और घटोत्कच की उत्पत्ति, एकचक्रा नगरी में पाण्डवों का प्रवेश, ब्राह्मण के घर पर निवास, भीम द्वारा बकासुर-वध, पाण्डवों का पांचाल देश जाना, अंगारपर्ण गन्धर्व को पराजित करना, द्रुपद की राजधानी में जाकर कुम्हार के घर रुकना, द्रौपदी-स्वयंवर में जाना, अर्जुन का लक्ष्य वेधना तथा द्रौपदी का विवाह पाण्डवों से होना, पाण्डवों के प्रति धृतराष्ट्र का प्रेम दिखाना,दुर्योधन की चिन्ता, भीष्म की दुर्योधन को पाण्डवों को आधा राज्य देने की सलाह, द्रोणाचार्य की पाण्डवों को उपहार भेजने और बुलाने की सलाह, धृतराष्ट्र की आज्ञा से विदुर का द्रुपद के यहाँ जाना, पाण्डवों को हस्तिनापुर बुलाना, आधा राज्य देना, इन्द्रप्रस्थ नगर का निर्माण करना, पाण्डवों में द्रौपदी को लेकर फूट न

पड़े अतः नारद का समझाना तथा कुछ नियम निर्धारित करना, अर्जुन का गोधन की रक्षा के लिए नियम भंग करना, भाई की आज्ञा लेकर अर्जुन का बारह वर्ष के वनवास के लिए प्रस्थान करना[18] तथा बारह वर्ष पूर्ण होने पर खाण्डवप्रस्थ लौटना[19] एवं कुछ काल पश्चात् (लगभग एक वर्ष) अभिमन्यु का पैदा होना[20] आदि *महाभारत* में वर्णित इन सब घटनाओं के आधार पर भीष्म की अभी तक की उम्र रेखा एक सौ इकतीस होती है। अर्जुन के खाण्डवप्रस्थ लौटने के पश्चात् की घटनाओं में खाण्डवप्रस्थ का जलाना, देवताओं की पराजय, मयासुर की रक्षा, मयासुर से सभाभवन बनवाना, कृष्ण का द्वारका जाना, सभाभवन का चौदह महीनों[21] में बनकर तैयार होना, युधिष्ठिर का सभाभवन में प्रवेश करना आदि सब मिलाकर इन घटनाओं का समय दो वर्ष तो हो ही सकता है। अर्थात् इस समय तक भीष्म की उम्र एक सौ तैंतीस वर्ष की हो चुकी थी। तत्पश्चात् युधिष्ठिर द्वारा राजसूय यज्ञ का संकल्प करना, कृष्ण, अर्जुन एवं भीम की मगध-यात्रा, भीम द्वारा जरासंध-वध, कृष्ण आदि का इन्द्रप्रस्थ आना और वहाँ से द्वारका जाना, चारों पाण्डवों का दिग्विजय के लिए निकलना, अर्जुन का उत्तर दिशा, भीम का पूर्व दिशा, सहदेव का दक्षिण दिशा तथा नकुल का पश्चिम दिशा पर विजय प्राप्त करना और इन्द्रप्रस्थ लौटना, कृष्ण की आज्ञा से राजसूय यज्ञ के लिए युधिष्ठिर का ब्राह्मणों, राजाओं, सगे-सम्बन्धियों को निमंत्रण भेजना, कृष्ण का अग्रपूजा में शिशुपाल का विरोध तथा कृष्ण द्वारा उसका वध, यज्ञ की समाप्ति, दुर्योधन का सभाभवन देखना, भ्रमवश पानी में गिरना, दीवार से टकराना आदि घटनाओं को हम कम से कम पाँच वर्ष का समय तो दे ही सकते हैं। अर्थात उस समय तक भीष्म की उम्र एक सौ अड़तीस वर्ष हो चुकी थी। तत्पश्चात् पाण्डवों की समृद्धि से जलने के कारण धृतराष्ट्र की आज्ञा से विदुर को भेजकर पाण्डवों को द्यूतक्रीड़ा के लिए हस्तिनापुर बुलाना, द्यूतक्रीड़ा में युधिष्ठिर का धन, राज्य, भाइयों तथा द्रौपदी सहित हारना, दुःशासन का एकवस्त्रा, रजःस्वला द्रौपदी को केश पकड़कर भरी सभा में घसीटकर लाना, चीरहरण करना, भीमसेन का क्रोधित होना तथा युद्ध में दुःशासन की छाती फाड़कर लहू पीने की प्रतिज्ञा करना, धृतराष्ट्र का युधिष्ठिर को सब कुछ लौटा देना और इन्द्रप्रस्थ भेजना, दुर्योधन का धृतराष्ट्र को अर्जुन की वीरता से भय बतलाकर पुनः द्यूतक्रीड़ा के लिए पाण्डवों को बुलाना, गांधारी का धृतराष्ट्र को चेतावनी देना और धृतराष्ट्र द्वारा अस्वीकृत किया जाना, सबके मना करने पर भी धृतराष्ट्र की आज्ञा से युधिष्ठिर का द्यूत खेलना और हारना, शर्त हारने पर बारह वर्ष का वनवास और एक वर्ष का अज्ञातवास मिलना, वन जाते समय अर्जुन का भीम से कहना कि "साधु पुरुष वाणी द्वारा सूचित नहीं करते, आज से चौहदवें वर्ष में जो घटना घटित होगी, उसे स्वयं ही देख लेंगे",[22] तत्पश्चात् कुन्ती का विदुर के घर रहना, पाण्डवों का धृतराष्ट्र आदि से विदा लेना, *महाभारत* में उल्लिखित इन घटनाओं के आधार पर वनवास-समाप्ति तक भीष्म की आयु एक सौ इक्यावन वर्ष हो चुकी थी।

अभिमन्यु के विवाह के पश्चात् की सारी घटनाएँ – पाण्डवों द्वारा पुरोहित को हस्तिनापुर भेजना, उसका कौरव-सभा में भाषण, कर्ण का आक्षेप, कृष्ण का दुर्योधन और अर्जुन दोनों को युद्ध में सहायता देना, शल्य का दुर्योधन के साथ आना, धृतराष्ट्र का संजय को पाण्डवों के पास भेजना तथा शान्ति की प्रार्थना करना, इन्द्रप्रस्थ देने पर शान्ति हो सकती है ऐसा युधिष्ठिर का कहना, संजय को प्रत्युत्तर देते हुए धृतराष्ट्र को कृष्ण की चेतावनी देना, संजय की विदाई, विदुर का धृतराष्ट्र को समझाना, कौरव-सभा में संजय द्वारा अर्जुन-संवाद सुनाना, भीष्म का दुर्योधन को सन्धि के लिए समझाना, कृष्ण का कौरव-सभा में शान्तिदूत बनकर जाना, सन्धि का प्रयत्न करना, धृतराष्ट्र के अनुरोध पर कृष्ण का दुर्योधन का समझाना, भीष्म, द्रोण, विदुर एवं धृतराष्ट्र का दुर्योधन को समझाना, कृष्ण को दुर्योधन का राज्य न देने का निश्चय सुनाना, दुर्योधन का कृष्ण को पकड़ने का षडयंत्र करना, सात्यकि द्वारा भंडाफोड़ करना, कृष्ण द्वारा सिंह-गर्जना, विराटरूप दर्शन कराकर कौरवों की सभा से प्रस्थान करना, कृष्ण का कर्ण को पाण्डव-पक्ष में आने के लिए समझाना, कुन्ती का कर्ण को समझाना, धृतराष्ट्र का दुर्योधन को पाण्डवों को आधा राज्य देने का आदेश, सबकुछ प्रयत्न असफल होना, दोनों पक्षों का अपने-अपने सेनापति बनाना, युद्ध के नियम निर्धारण करना, कुरूक्षेत्र में प्रवेश करना, शिविर का निर्माण करना, बलराम का पाण्डवों से विदा लेकर तीर्थ जाना, रुक्मी का युद्ध में सहायता के लिए आना, किन्तु दोनों पक्षों के द्वारा कोरा उत्तर देने पर निकल जाना, दुर्योधन द्वारा उलूक को दूत बनाकर भेजना, पाण्डव-सभा में उसका संदेश सुनाना, पाण्डव-पक्ष की ओर से दुर्योधन को उत्तर, उत्तर सुनकर सेना को तैयार होने का आदेश, युद्ध का आरम्भ, आरम्भ होते ही अर्जुन का मोहग्रसित होकर हथियार डालना, कृष्ण का (गीता) उपदेश देना, इन सभी घटानाओं को हम कम से कम दो वर्ष तो दे ही सकते हैं, अतः युद्ध के समय तक भीष्म की आयु एक सौ तिरपन वर्ष की थी।

अतः एक सौ तिरपन वर्ष की आयु में भीष्म ने महाभारत युद्ध में कौरव-सेना का सेनापतित्व दस दिन के लिए संभाला। पाण्डवों के लिए उनको मारना बहुत ही कठीन कार्य था। अंतिम दो दिनों के युद्ध में तो उन्होंने भंयकर तबाही मचा दी थी। अतः उनको मारने के लिए पाण्डवों को शिखंडी का आश्रय लेना पड़ा। यह भीष्म की अकाट्य वीरता का प्रमाण है और एक सौ तिरपन वर्ष के योद्धा के सम्बन्ध में निश्चय ही विचारणीय प्रश्न है। उनके नेतृत्व का काल कौरव-सेना के लिए सबसे अधिक सफलता का रहा यद्यपि इस अवधि में भी कई महान् कौरव सेनानायक मारे गये। किन्तु बाद के समय को देखते हुए यह एक अद्भुत प्रदर्शन था यह मानना पड़ेगा।

द्रोणाचार्यः

भीष्म पितामह के बाद द्रोणाचार्य कौरव-सेना के सेनापति बने और उनके नेतृत्व में कौरव-सेना ने पाँच दिन तक युद्ध किया। यह देखना उपादेय होगा कि युद्ध के

समय द्रोणाचार्य का वय क्या था, इस सम्बन्ध में *महाभारत* में केवल एक ही उल्लेख मिलता है, जैसा कि निम्नलिखित विवेचन से स्पष्ट होता है।

महाभारत में द्रोण का आगमन पितृविहीन पाण्डुपुत्रों के वन से लौटने के बाद होता है। वे कौरवों और पाण्डवों दोनों के ही गुरु थे। वह शिष्यों का उपयोग द्रुपद से अपना प्रतिशोध लेने के लिए करते हैं, यह गुरु-दक्षिणा के समय स्पष्ट हो जाता है। उस समय अर्जुन द्रुपद को बंदी बनाकर द्रोण को सौंपता है और द्रोण आधा राज्य रखकर आधा द्रुपद को लौटाते हैं। कौरव-सभा में उनका स्थान महत्त्वपूर्ण है। कौरवों द्वारा सम्मानित होकर, यश और वैभवपूर्ण जिन्दगी व्यतीत करते हुए वे अन्त में युद्ध में उन्हीं के पक्ष का समर्थन करते हैं। उनकी उम्र का उल्लेख सम्पूर्ण *महाभारत* में एक ही स्थान पर आता है। द्रोणवधपर्व में संजय द्वारा धृतराष्ट्र से कहा गया है कि "आचार्य के शरीर का रंग सांवला था, उनकी अवस्था पिच्यासी वर्ष की हो चुकी थी और उनके ऊपर से लेकर कान तक के बाल सफेद हो गये थे। फिर भी आपके हित के लिए वे संग्राम में सोलह वर्ष की उम्र के तरुण के समान विचरते थे"[23]।

पिच्यासी वर्ष के द्रोणचार्य ने पाँच दिन के युद्ध में भयंकर मारकाट की। वे दुर्योधन की इच्छा पूरी करने के लिए युधिष्ठिर को जीवित पकड़ने की प्रतिज्ञा करते हैं तथा पाण्डव-पक्ष के अनेक वीरों का वध करते हैं। गरुडव्यूह का निर्माण कर गजसेना का भारी संहार करते हैं। पांचालकुमार सत्यजित् का, विराट के छोटे भाई शतानीक का, दृढसेन, क्षेम तथा वसुदान नामक राजाओं का वध करते हैं। इसी प्रकार युद्ध में सात्यकि, चेकितान कुमार, सेनाबिन्दु तथा सुवर्चा इन सभी राजाओं को पराजित करते हैं। दुर्योधन के उपालम्भ से दुखित होकर चक्रव्यूह की रचना करते हैं, अर्जुन को त्रिगर्तों से युद्ध के लिए दूर भेजकर अभिमन्यु-वध करवाते हैं। तेरहवें दिन (द्रोण के नेतृत्व का तीसरा दिन) का युद्ध महाभयंकर होता है। वे अर्जुन, धृष्टद्युम्न तथा युधिष्ठिर के साथ भयंकर युद्ध करते हैं तथा उन्हें पराजित भी करते हैं। वीरकेतु आदि पांचालों को बृहतक्षेत्र, धृष्टकेतु, जरासंघ-पुत्र सहदेव, धृष्टद्युम्नकुमार, क्षालधर्मा एवं शिबि का वध करते हैं। वीर घटोत्कच का वध भी इन्हीं के नेतृत्व में कर्ण द्वारा होता है। ये द्रुपद के पौत्रों, द्रुपद एवं विराट् का वध भी स्वयं ही करते हैं। इनकी भयंकर वीरता को सहन न कर पाने के कारण ही युधिष्ठिर अश्वत्थामा की मृत्यु का समाचार देकर गुरु द्रोण को अस्त्र-शस्त्र त्याग करने को मजबूर कर देते हैं और अन्त में धृष्टद्युम्न द्वारा इसी अवस्था में मार दिये जाते हैं। इस प्रकार पाँच दिन रण में भयंकर तबाही मचाकर, प्रसिद्ध सेनानायकों का वध करके, कौरवों के प्रति अपना कर्त्तव्य निभाकर यह महान् सेनानायक पिच्यासी वर्ष की अवस्था में शरीर त्याग देता है।

पिच्यासी वर्ष का वृद्ध इतने महान् वीर योद्धाओं का वध कर सकेगा, जिसकी

वीरता को देखकर युवावर्ग भी भयभीत होगा, बार-बार सेना पलायन करेगी और अन्त में उस अबध्य महान् सेनानायक को धोखे से मारना भी इस बात का प्रमाण है कि वह महान् वीर था। उसका सामना करना सबके लिए कठिन हो रहा था। *महाभारत* का यह एक विचारणीय प्रश्न है।

अभिमन्यु

भीष्म के सेनापतित्व तक तो युद्ध के निर्धारित नियमों का थोड़े बहुत अपवादों के साथ पालन किया जाता रहा। परन्तु उसके बाद तो ये नियम जैसे रह ही नहीं गये और इसका सबसे बड़ा उदाहरण है अभिमन्यु के साथ कौरवों का युद्व। इस युद्ध के समय अभिमन्यु की आयु बहुत कम थी, जैसा कि अधोलिखित विवेचन से स्पष्ट है।

पाण्डुपुत्रों के गर्भाधान से लेकर चूडाकरण और उपनयन तक सभी संस्कार तथा वेदाध्ययन एवं तपस्या के लिए आए हुए महात्मा राजा शुक द्वारा शतश्रृंग पर्वत पर पाण्डवों को धनुर्वेद में पारंगत करने का वर्णन *महाभारत* में आता है[24]। पाण्डु के निधन के समय अर्जुन की उम्र चौदह वर्ष की थी इसका उल्लेख भी *महाभारत* में किया गया है,[25] पाण्डवों के कुन्ती के साथ हस्तिनापुर आने के पश्चात् अनेक घटनाएँ घटती हैं, जैसे – पाण्डु और माद्री की अस्थियों का दाह-संस्कार, भाई-बन्धुओं द्वारा जलांजलि, पाण्डवों तथा धृतराष्ट्र-पुत्रों की बालक्रीड़ा, दुर्योधन का भीम को विष खिलाकर गंगा में ढकेलना, सत्यवती, अम्बिका तथा अम्बालिका का वन-गमन, द्रोण का आगमन और कौरव-पाण्डवों की शिक्षा, इन सभी घटनाओं के लिए पाँच वर्ष का समय दिया जा सकता है, अतः आचार्य द्रोण द्वारा राजकुमारों की शस्त्र-परिक्षा के समय अर्जुन की उम्र उन्नीस वर्ष अपेक्षित की जा सकती है। उसके बाद की घटनाओं में गुरु-दक्षिणा हेतु प्रथम दुर्योधन और द्रुपद का युद्ध, दुर्योधन की पराजय, अर्जुन द्वारा द्रुपद को बन्दी बनाया जाना तथा एक वर्ष पश्चात् धृतराष्ट्र द्वारा पाण्डु-पुत्र युधिष्ठिर को युवराज पद पर अभिषिक्त करना,[26] राष्ट्र की वृद्धि तथा शौर्य दिखाने हेतु अर्जुन और भीम का पूर्व तथा दक्षिण दिशा को विजित करना,[27] दुर्योधन की सलाह से धृतराष्ट्र द्वारा पाण्डवों को वारणावत भेजा जाना, वहाँ एक वर्ष तक निवास करना[28], लाक्षागृह का जलना तथा बाद की सभी घटनाओं को यदि हम छोड़ भी दें तो द्रौपदी-विवाह के समय अर्जुन की उम्र इक्कीस वर्ष अपेक्षित की जा सकती है। इसके पश्चात् पाण्डवों का हस्तिनापुर आना तथा आधा राज्य प्राप्त करना, द्रौपदी को लेकर फूट न हो अतः नारदजी द्वारा समझाना, एक नियम निर्धारण करना, गोधन की रक्षा के लिए अर्जुन का नियम भंग करना और बारह वर्ष के लिए वनवास जाना,[29] गंगाद्वार में ऐरावत कुलोत्पन्न कौरव्य नामक नागराज की कन्या उलूपी से विवाह करना, पुत्र इरावान् का उत्पन्न होना, मणिपूर-नरेश चित्रवाहन की पुत्री चित्राङ्गदा से विवाह करना, तीन वर्ष तक उसके साथ नगर में निवास करना[30],

पुत्र बभ्रुवाहन का जन्म होना, प्रभास तीर्थ में कृष्ण का मिलना, रैवतक पर्वत पर सुभद्रा के प्रति आसक्त होना, द्वारकापुरी जाना, कृष्ण की सलाह तथा युधिष्ठिर की सहमति से सुभद्रा-हरण एवं विवाह करना तथा एक वर्ष से[31] अधिक समय तक द्वारका में सुभद्रा के साथ निवास करना, वहाँ से पुष्कर तीर्थ जाना, वनवास की शेष अवधि वहीं पूर्ण करके[32] इन्द्रप्रस्थ लौटना, लगभग एक वर्ष पश्चात् अभिमन्यु का जन्म होना[33]। उपर्युक्त तथ्यों के आधार पर इस समय तक अर्जुन की उम्र चौंतीस वर्ष की होती है। अर्जुन के खाण्डवप्रस्थ लौटने के बाद की घटनाएँ इस प्रकार हैं – अर्जुन का कृष्ण के साथ खाण्डववन जाना, ब्राह्मणवेशधारी अग्नि से मिलना, खाण्डववन को जलाना, देवताओं को पराजित करना तथा मयासुर की रक्षा करना, मयासुर से कृष्ण द्वारा अद्वितीय सभाभवन का चौदह महीनों में पूर्ण होना।[34] इन घटनाओं और चौदह महीनों की अवधि सब मिलाकर दो वर्ष तो माना ही जा सकता है, अर्थात् अर्जुन की उम्र इस समय छत्तीस वर्ष की रही होगी। तत्पश्चात् युधिष्ठिर का सभाभवन में प्रवेश करना, उनका राजसूय यज्ञ करने का संकल्प करना, श्रीकृष्ण, अर्जुन और भीम का मगध की ओर प्रस्थान, जरासंध-वध, बंदी राजाओं की मुक्ति, जरासंध-पुत्र सहदेव को राजगद्दी पर बैठाना, कृष्ण आदि का इन्द्रप्रस्थ आना, वहाँ से द्वारका जाना, चारों पाण्डवों की दिग्वियज-यात्रा, अर्जुन का उत्तर दिशा, भीम का पूर्व दिशा, सहदेव का दक्षिण दिशा तथा नकुल का पश्चिम दिशा की ओर प्रस्थान करना तथा सभी दिशाओं को जीतकर इन्द्रप्रस्थ लौटना, कृष्ण की आज्ञा से युधिष्ठिर का राजसूय यज्ञ की दीक्षा लेना, राजाओं, ब्राह्मणों और सगे-सम्बन्धियों को निमंत्रण भेजना, कृष्ण की अग्रपूजा करना, शिशुपाल का अग्रपूजा का विरोध तथा कृष्ण द्वारा उसका वध, यज्ञ की समाप्ति, राजाओं का स्वदेश लौटना, दुर्योधन एवं शकुनि का मयसभा देखना, दुर्योधन का भ्रमवश पानी में गिरना, दीवार से टकराना, उसका क्रोधित होकर हस्तिनापुर जाना, इन सभी घटनाओं को घटित होने में कम से कम पाँच वर्ष तो लगे ही होंगे। अतः इस समय अर्जुन की अवस्था इकतालीस वर्ष की अपेक्षित की जा सकती है तथा अभिमन्यु की सात वर्ष। तत्पश्चात् धृतराष्ट्र द्वारा विदुर को भेजकर पाण्डवों को द्यूत के लिए हस्तिनापुर आमंत्रित करना, द्यूतक्रीड़ा में युधिष्ठिर का राज्य, धन, भाइयों तथा द्रौपदी हार जाना, दुःशासन का द्रौपदी को केश पकड़कर सभा में लाया जाना, भीम का क्रोधित होकर युद्ध में दुःशासन की छाती का लहू पीने की प्रतिज्ञा करना, धृतराष्ट्र का युधिष्ठिर को सब कुछ लौटाकर इन्द्रप्रस्थ भेजना, दुर्योधन का धृतराष्ट्र से अर्जुन की वीरता का भय बतलाकर पुनः द्यूतक्रीड़ा के लिए पाण्डवों को आमंत्रित करवाना, सबके मना करने पर भी धृतराष्ट्र की आज्ञा से युधिष्ठिर का द्यूत खेलना और हारना तथा शर्त के अनुसार बारह वर्ष वनवास और एक वर्ष अज्ञातवास के लिए निकल पड़ना, *महाभारत* में बारह वर्ष बीतने तथा तेरहवें वर्ष के प्रारम्भ होने का वर्णन विराट्पर्व में आता है[35] जहाँ पाण्डव

गुप्तरूप से एक वर्ष व्यतीत करने की योजना बनाते हैं तथा युधिष्ठिर कङ्क, भीम वल्लभ, अर्जुन बृहन्नला, नकुल ग्रान्धिपाल, सहदेव तन्तिपाल और द्रौपदी सैरन्ध्री बनकर राजा विराट् के यहाँ अपना समय बिताते हैं। तत्पश्चात् दुर्योधन को गुप्तचरों द्वारा कीचकवध की घटना सुनाना, दुर्योधन का शक करना और भीष्म आदि की सम्मति लेकर मत्स्य देश पर धावा बोलना, पाण्डवों के साथ विराट् द्वारा युद्ध का सामना करना और पाण्डवों का जीतना, कौरवों का विराट् की गायों का उत्तर दिशा की ओर से आकर अपहरण करना, उत्तर को युद्ध के लिए प्रेरित करना, अर्जुन का उत्तर का सारथी बनना, उत्तर का भयभीत होकर रणभूमि से भागना, अर्जुन द्वारा उत्तर से शमीवृक्ष से अपने हथियार उतारना, कौरव-सेना को पराजित करना, विराट् की गायों को छुड़ाना, इस समय तक पाण्डवों के तेरह वर्ष बीत जाना, चान्द्र वर्ष और सौर वर्ष दोनों ही गणनाओं से समय का पूर्ण होना[36], पाण्डवों का प्रकट होना, राजा विराट् का प्रसन्न होकर उत्तरा के साथ अर्जुन-पुत्र अभिमन्यु का विवाह निश्चित करना तथा राजा विराट् के उपप्लव्य नामक नगर में पाण्डवों द्वारा अपने सगे-सम्बन्धियों को बुलाकर अभिमन्यु-उत्तरा का विवाह रचाना, कृष्ण का द्वारका लौट जाने का वर्णन है। विवाह के समय अभिमन्यु की उम्र बीस वर्ष तथा अर्जुन की चव्वन वर्ष अपेक्षित की जा सकती है।

अभिमन्यु-विवाह के पश्चात् की सारी घटनाएँ युद्ध का रोकने से सम्बन्धित है। इनमें सर्वप्रथम पुरोहित का हस्तिनापुर में कौरव-सभा में भाषण, कर्ण का आक्षेप, कृष्ण का दुर्योधन और अर्जुन दोनों को युद्ध में सहायता देना, शल्य का दुर्योधन से प्रसन्न होकर युद्ध में उसका साथ देना, धृतराष्ट्र का संजय को पाण्डवों के पास भेजना, संजय द्वारा धृतराष्ट्र को संदेश देना और शान्ति की प्रार्थना करना, इन्द्रप्रस्थ देने पर ही शान्ति होगी ऐसा युधिष्ठिर का कहना, संजय को प्रत्युत्तर देते हुए कृष्ण का संजय को धृतराष्ट्र के लिए चेतावनी देना, संजय की विदाई, युधिष्ठिर का संदेश, विदुर द्वारा धृतराष्ट्र को समझाना, कौरव-सभा में संजय द्वारा अर्जुन संवाद सुनाना, भीष्म का दुर्योधन को सन्धि के लिए समझाना, धृतराष्ट्र का दुर्योधन को समझाना, दुर्योधन द्वारा युद्ध का निश्चय, कृष्ण का कौरव-सभा में शान्तिदूत बनकर जाना, सन्धि का प्रयत्न करना, सभा में भाषण देना, धृतराष्ट्र के अनुरोध पर कृष्ण का दुर्योधन को समझाना, भीष्म, द्रोण, विदुर तथा धृतराष्ट्र का दुर्योधन को समझाना, कृष्ण को दुर्योधन का उत्तर राज्य न देने का निश्चय, कृष्ण का दुर्योधन को फटकारना, दुर्योधन का कृष्ण को पकड़ने का षड्यंत्र करना, सात्यकि द्वारा भंडाफोड़, कृष्ण की सिंह-गर्जना, धृतराष्ट्र एवं गांधारी का पुनः दुर्योधन को समझाना, कृष्ण का विश्वरूप दर्शन कराना तथा कौरव-सभा से प्रस्थान करना, कृष्ण का कर्ण को पाण्डव-पक्ष में आने के लिए समझाना, कुन्ती का कर्ण को समझाना, धृतराष्ट्र का दुर्योधन को पाण्डवों को आधा राज्य देने का आदेश, सब प्रयत्नों का असफल होना,

दोनों पक्षों का अपने-अपने सेनापति निर्धारित करना, कुरुक्षेत्र-प्रवेश, शिविर का निर्माण करना, दुर्योधन द्वारा भीष्म को प्रधान सेनापति बनाना तथा पाण्डवों द्वारा धृष्टद्युम्न को सेनापति बनाना, बलराम का आना और पाण्डवों से विदा लेकर तीर्थ को निकल जाना, रुक्मी का युद्ध में सहायता के लिए आना किन्तु दोनों पक्षों के द्वारा कोरा उत्तर देने पर निकल जाना, दुर्योधन द्वारा उलूक को दूत बनाकर भेजना, पाण्डव-सभा में उसका संदेश सुनाना, पाण्डव पक्ष की ओर से दुर्योधन को उत्तर, उत्तर सुनकर सेना तैयार होने का आदेश देना, युद्ध का आरम्भ, इन सभी घटनाओं को हम कम से कम दो वर्ष का समय दे सकते हैं। अतः युद्ध के समय तक अर्जुन की उम्र छप्पन वर्ष तथा अभिमन्यु की बाईस वर्ष तो अपेक्षित की जा सकती है।

बाईस वर्ष के योद्धा अभिमन्यु का भीष्म के सेनापतित्व के समय से ही *महाभारत* में वर्णन प्रारम्भ हो जाता है। उसकी वीरता और शूरता भीष्म, द्रोण तथा अन्य कौरवों द्वारा स्थान-स्थान पर सराही गई है। वह भीष्म के साथ युद्ध करता है तथा उसे रोकने के लिए भीष्म को दिव्यास्त्रों का प्रयोग भी करना पड़ता है। अभिमन्यु का भीष्म द्वारा बनाये गये व्यूह का भंग करना, भीष्म-अर्जुन युद्ध के समय ढाल बनकर खड़ा होना, भीष्म, कृप, द्रोण, अश्वत्थामा जैसे महारथियों के साथ युद्ध करना और उन्हें पराजित करना। अनेकदा कौरव-पक्ष के महारथियों से घिरने के पश्चात् भी सकुशल बच निकलना, समस्त महारथियों पर अभिमन्यु का आक्रमण असह्य हो जाना आदि अभिमन्यु की वीरता के वर्णनों से भीष्म-नेतृत्व के दस दिन भरे पड़े हैं। द्रोणाचार्य का सेनापतित्व-काल, जो पाँच दिन चलता है उसमे प्रथम दिन से ही अभिमन्यु की वीरता की चर्चा प्रारम्भ हो जाती है। वह कौरवों पर आक्रमण कर उनके ध्वज, छत्र, धनुष काटकर उन्हें तथा उनके सारथि को क्षत-विक्षत कर देता है। जयद्रथ के सामना करने पर उसे भी घायल करता है। अन्य राजाओं द्वारा घिर जाने पर वह उत्साहपूर्वक सबको घायल कर घेरे से मुक्त हो जाता है। महाभारत युद्ध के तेरहवें दिन (द्रोण के सेनापतित्व के तीसरे दिन) के युद्ध में अर्जुन को दूर संसप्तकगणों से लड़ने निकल जाने पर द्रोण द्वारा चक्रव्यूह रचना, अभिमन्यु द्वारा चक्रव्यूह भेदना, जयद्रथ द्वारा व्यूह के अन्दर किसी भी पाण्डव वीर को प्रवेश न करने के कारण अभिमन्यु का कौरवों में एकाकी पड़ जाना किन्तु हमेशा की भाँति शत्रुओं द्वारा घेर लिए जाने पर भी न घबराने वाला यह निडर योद्धा युद्धभूमि में योद्धाओं का, रथों का, गजों का संहार पतंगों की भाँति प्रारम्भ कर देता है। वह भगवान विष्णु के समान युद्ध में सुशोभित होता है। शत्रु उससे भयभीत होकर दिशाओं को देखने लगते हैं तथा उनके मुख सूखने लगते हैं। इसी अवस्था में वह वीर योद्धा अश्मकपुत्र को मार डालता है तथा शल्य को घायल कर देता है। कौरव-पक्ष के अन्य योद्धाओं में कर्ण के भाई का तथा वसातीय आदि योद्धाओं का वध करता है। उससे भयाक्रान्त होकर द्रोण की सेना के पांव उखड़ जातें हैं। इसी समय कृपाचार्य उसकी वीरता की सराहना करते हुए कहतें हैं कि 'उन्होनें आज तक अभिमन्यु के समान दूसरा

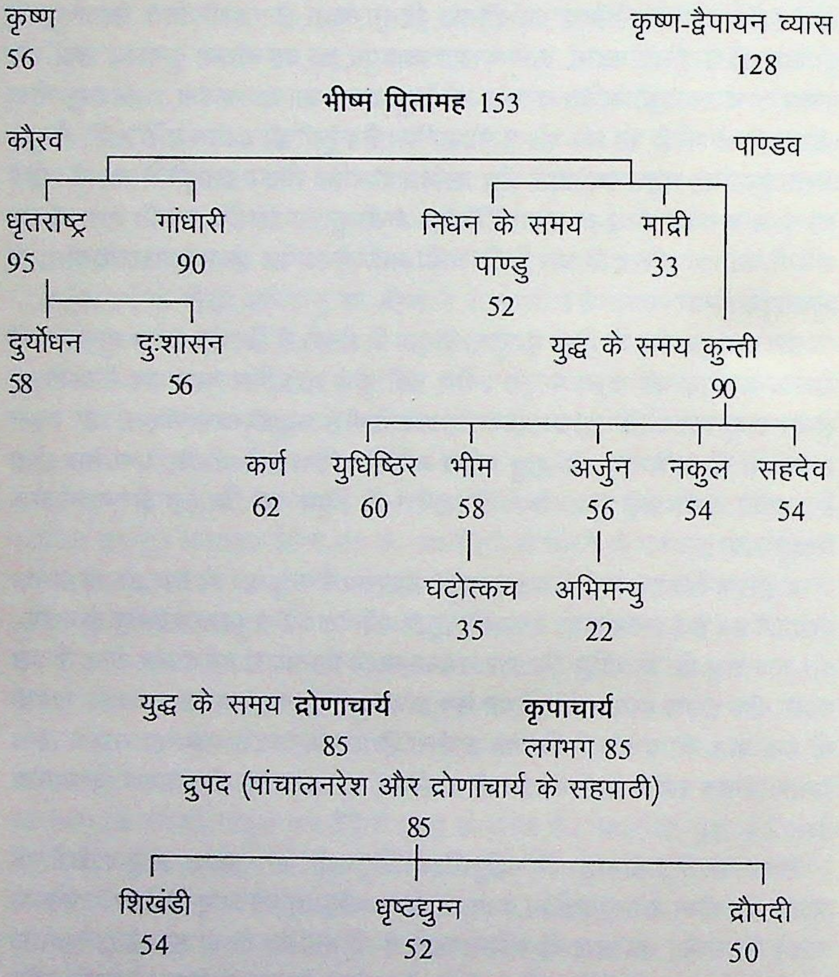
वीर नहीं देखा'। इतना ही नहीं सत्यश्रवा, रुक्मरथ तथा उसके मित्रगणों और सैकड़ों राजकुमारों का उसके द्वारा वध किये जाने का वर्णन *महाभारत* के द्रोणपर्व के तेरहवें दिन (द्रोण के सेनापतित्व का तीसरा दिन) आता है। इसी दिन उसके द्वारा दुर्योधन को पराजित करना, लक्ष्मण तथा क्रथ-पुत्र का वध करना, वृन्दारक तथा दस हजार अन्य राजाओं सहित कोसल-नरेश बृहद्बल का वध करना, अश्वकेतु, भोज और कर्ण के मन्त्री का वध करना भी शामिल है। ऐसी ही कठिन परिस्थिति में युद्ध करता हुआ वह धनुष, रथ, ढाल और तलवार से रहित होकर रणभूमि में रथ के पहिये को ढाल बनाकर काल के समान विचरण करते हुए कालिकेय, वसति तथा कैकय रथियों का वध करता है और इसी समय वह कौरव-पक्ष के छह महारथियों द्वारा क्रूरतापूर्वक मारा जाता है।

इस अद्‌भुत वीर के लिए धृतराष्ट्र संयज से कहते हैं कि वह तरुण कुमार अभी बालक था, युद्ध की कला में पूरा प्रवीण नहीं हुआ था। फिर गहन वन में फसें हुए सुन्दर अश्व की भाँति वह उस विषम संग्राम में कैसे सकुशल रह सकता था[37]। इस श्लोक से भी अभिमन्यु की आयु बाईस वर्ष से अधिक नहीं थी यह प्रमाणित होता है। उसने अभी-अभी युवावस्था में पदार्पण ही किया था कि वह वीर स्वर्गलोक सिधार गया।

बाईस वर्ष का तरुण, निपट एकाकी अवस्था में शत्रु-पक्ष से घिरकर भी अनेक योद्धाओं का वध कर सकेगा, जिसकी वीरता को देखकर शत्रु-पक्ष भयभीत हो उठेगा, बार-बार शत्रु-पक्ष के योद्धा मिलकर उसको मारने का प्रयास करेंगे और अन्त में उस महान वीर तरुण बालक को नियम भंग करते हुए सबका एक साथ घेरकर मारना भी इस बात का प्रमाण है कि वह अकेला ही सब पर भारी पड़ रहा था। उसका सामना करना सबके लिए असह्य हो उठा था। *महाभारत* का यह भी एक विचारणीय प्रश्न है।

ऊपर हमने *महाभारत* में उल्लिखित घटनाओं और स्पष्ट आयु-संकेतों के आधार पर भीष्म, द्रोण, दुर्योधन, पाण्डवों तथा अभिमन्यु की आयु निश्चित करने का प्रयत्न किया है। यह लेख से संलग्न चार्ट में भी प्रदर्शित किया गया है। जैसा कि इस विवेचन से स्पष्ट है। इनमें से भीष्म और द्रोण की आयु तो युद्ध के समय बहुत अधिक थी, इतनी अधिक कि हम उनके युद्ध में भाग लेने की कल्पना भी नहीं कर सकते। इस लेख में हमने घटनाओं को न्यूनतम समय दिया है और यदि इन घटनाओं के घटने में कुछ कम समय भी लगा हो तो वह आठ-दस वर्ष कम हो सकती है, पर इतना होने पर भी उनकी आयु युद्ध के समय अकल्पनीय है। इसमें कहां तक सच्चाई है यह निर्णय करना कठिन है। सबसे कम आयु थी अभिमन्यु की और उसके द्वारा युद्ध में इतनी वीरता प्रदर्शित करना और अनेक विख्यात महारथियों के साथ इतना भयानक युद्ध करना भी आश्चर्य की बात है।

महाभारत के पात्रों की युद्ध के समय की आयु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8. वही, 108/18

संस्कारैः संस्कृतास्ते तु व्रताध्ययनसंयुताः।
श्रमव्यायामकुशलाः समपद्यन्त यौवनम्।।18।।

9. वही, 108/19-25 तक

धृतराष्ट्रस्त्वचक्षुष्ट्वाद राज्यं न प्रत्यपधत।
पारशवत्वाद् विदुरो राजा पाण्डुर्बभूवह।।25।।

10. तुम्हें भी ऐसी ही मृत्यु प्राप्त हो।
11. वही, 122/1
संवत्सरधृते गर्भे गान्धार्या जनमेजय।
आह्वयामास वै कुन्ती गर्भार्थ धर्ममच्युतम्।।1।।
12. वही, 114/27
तस्मिन्नेव महाबाहुर्जज्ञे भीमोऽपि वीर्यवान्।
स जातमात्र एवाथ धृतराष्ट्रसुतो नृप।।27।।
13. वही, 123/22
अनुसंवत्सरं जाता अपि ते कुरुसत्तमाः।
पाण्डुपुत्रा व्यराजन्त पञ्च संवत्सरा इव।।22।।
[प्रतिवर्ष एक-एक करके उत्पन्न होने का उल्लेख है जो असम्भव है]
14. वही, 123/32
ततः पाण्डुः क्रियाः सर्वाः पाण्डवानामकारयत्।
गर्भधानादिकृत्यानि चौलोपनयनानि च।।
काश्यपः कृतवान् सर्वमुपाकर्म च भारत।
चौलोपनयानादूर्ध्वपमृषभाक्षा यशस्विनः।।
वैदिकाध्ययने सर्वे समपद्यन्त पारगाः ।।32।।
15. वही, 124/2, 12
पुर्णे चतुर्दशे वर्ष फाल्गुनस्य च धीमतः।
× × × ×
तस्मिन् काले समाहूय माद्रीं मदनमोहितः।।2।।
स तया सह संगम्य भार्यया कुरुनन्दनः।
पाण्डुः परमधर्मात्मा युयुजे कालधर्मणा।।12।।
16. वही, 138/1
ततः संवत्सरस्यान्ते यौवराज्याय पार्थिव।
स्थापितो धृतराष्ट्रेण पाण्डुपुत्रो युद्धिष्ठिरः ।।1।।
17. वही, 147/1
तांस्तु दृष्ट्वा सुमनसः परिसंवत्सरोषितान्।
विश्वस्तानिव संलक्ष्य हर्षं चक्रे पुरोचनः ।।1।।
18. वही, 213/35
सोऽभ्यनुज्ञाय राजानं वनचर्याय दीक्षितः।
वने द्वादश वर्षाणि वासायानुजगाम ह।।35।।
19. वही, 220/15
पुर्णे तु द्वादशे वर्षे खाण्डवप्रस्थमागतः ।।15।।
20. वही, 220/65
ततः सुभद्रा सौभद्रं केशवस्य प्रिया स्वसा।
जयन्तमिव पौलोमी ख्यातिमन्तमजीजनत।।65।।

21. सभापर्व, 3/37
ईदृशीं तां सभां कृत्वा मासैः परिचतुर्दशैः।
निष्ठितां धर्मराजाय मयो राजन् न्यवेदयत्।।37।।

22. वही, 77/30
नैवं वाचा व्यवसितं भीम विज्ञायते सताम्।
इतश्चतुर्दशे वर्षे द्रष्टारो यद् भविष्यति।।30।।

23. वही, 192/64
आकर्णपलितः श्यामो वयसाशीतिपञ्चकः ।।64।।
त्वत्कृते व्यचरत् संख्ये स तु षोडशवर्षवत्।

24. आदिपर्व, 123/32
ततः पाण्डुः क्रियाः सर्वाः पाण्डवानामकारयत्।
गर्भाधानादिकृत्यानि चौलोपनयनानि ।।
× × × ×
शर्यातिः पृषतः पुत्रः शुको नाम परंतपः।।
× × × ×
शतश्रृङ्ग तपस्तेपे शाकमूलफ्लाशनः ।।
तेनोपकरणश्रेष्ठैः शिक्षया चोपबृंहिताः।
तत्प्रसादाद् धनुर्वेदे समपद्यन्त पारगाः।।

25. वही, 124/1, 2, 12
पुर्णे चतुर्दशे वर्षे फाल्गुनस्य च धीमतः।
तदा उत्तरफल्गुन्यां प्रवृत्ते स्वस्तिवाचने।।

26. वही, 138/21
ततः संवत्सरस्यान्ते यौवराज्याय पार्थिव।
स्थापितो धृतराष्ट्रेण पाण्डुपुत्रो युधिष्ठिरः ।।1।।

27. वही, 138/24-25

28. वही, 147/1
तांस्तु दृष्ट्व सुमनसः परिसंवत्सरोषितान्।
विश्वस्तानिव संलक्ष्य हर्षं चक्रे पुरोचनः।।1।।

29. वही, 213/35
सोऽभ्यनुज्ञाय राजानं वनचर्याय दीक्षितः।
वने द्वादश वर्षाणि वासायानुजगाम ह।।35।।

30. वही, 214/26
स तथेति प्रतिज्ञाय तां कन्यां प्रतिगृह्य च।
उवास नगर तस्मिंस्तिस्त्रः कुन्तीसुतः समाः।।26।।

31. वही, 220/13
निवृत्तश्चार्जुनस्तत्र विवाहं कृतवान प्रभुः।
उषित्वा तत्र कौन्तेयः संवत्सरपराः क्षपाः।।13।।

32. वही, 220/14
विहृत्य च यथाकामं पूजितो वृष्णिनन्दनै।
पुष्करे तु ततः शेषं काले वर्तितवान् प्रभुः।।14।।
33. वही, 220/65
ततः सुभद्रा सौभद्रं केशवस्य प्रिया स्वसा।
जयन्तमिव पीलोमी ख्यातिमन्तमजीजनत्।।65।।
34. सभापर्व, 3/37
ईदृशीं तां सभां कृत्वा मासैः परिचतुर्दशैः।
निष्ठितां धर्मराजाय मयो राजन् न्यवेदयत्।।37।।
35. विराटपर्व, 1/8
द्वादशेमानि वर्षाणि राज्यविप्रोषिता वयम्।
त्रयोदशोऽयं सम्प्राप्तः कृच्छात् परमदुर्वसः।।8।।
36. वही, 52/4
एषामभ्यधिका मासाः पञ्च च द्वादश क्षपाः।
त्रयोदशानां वर्षाणाभिती में वर्तते मतिः।।4।।
37. द्रोणपर्व, 51/13
कथं हि बालस्तरुणो द्धेनाम विशारदः
सदश्व डव सम्बाधे विषमे क्षेममर्हति ।।। 3।।